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PROGRESS AND POVERTY IN MILLINERY MANUFACTURING[1]

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I

THE manufacture of millinery is not one of the country's major industries. However, the business is not a negligible one. The latest available report of the federal census indicates that 104,914,824 trimmed hats were produced in the United States in 1935.[3] Sixty per cent of these hats were made in the metropolitan New York market area. Nearly two-thirds of the dollar-volume of millinery manufactured in the United States is produced in New York, where slightly more than two-thirds of the nation's 1,033 producing establishments are located. The same census report indicates that 22,770 workers were employed

[1] This paper is based in part upon a much more detailed report of an investigation carried through for the Millinery Stabilization Commission by Joseph Lipshie and the present writer and published by the Commission in a limited mimeographed edition under the title *Economic Condition of the Millinery Manufacturing Industry in the New York Metropolitan Area* (New York, 1937).

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[3] *Census of Manufacturers, 1935*, "Women's Wearing Apparel," p. 12. Physical, or unit, volume was reported for the first time in the 1935 census.

in the industry in the United States in 1935.[4] It is commonly stated that about 20,000 workers are employed in New York establishments. It is a fair inference from the census figures that the true number must be nearer 15,000. It may well be that reckoning in the large but indeterminate number of workers who are unemployed there are as many as 20,000 workers attached to the industry in the metropolitan area. The census reports indicate that the average wholesale value per hat in 1935 was 81 cents for the United States as a whole and 85 cents in New York.[5]

The industry is characterized by small operating units, the average firm employing about twenty-five workers and doing a business of about $100,000 a year. It is fiercely competitive. The intensity of this competition is of course in considerable measure attributable to the fact that the product is a highly seasonal style item, highly resistant to standardization of design or specifications. It is heightened by the notoriously easy conditions of entrance into the industry—one can set up a going concern in the industry with a few thousand dollars—and by the fact that both the supply men from whom the millinery manufacturer buys and the jobbers and other dealers through whom he markets his product operate, by and large, under conditions much less sharply competitive. The supply men, importers, jobbers, and retailers are better organized than the manufacturers and enjoy a variety of more or less monopolistic advantages that are generally unavailable to the manufacturers.

In the New York market, with which this inquiry is principally concerned, the millinery manufacturing industry is better organ-

[4] *Ibid.*, p. 4. The census returns exclude firms with an annual dollar volume of less than $5,000. Few, if any, of the American firms producing millinery do less than this volume of business. The Census Bureau reports salaried personnel as follows:

Total salaried personnel	3,242
Salaried officers of corporations	1,257
Supervisory employees	459
Technical employees	181
Clerical employees	1,213

In addition to the foregoing salaried groups the census reports 481 "proprietors and firm members."

[5] *Ibid.*, p. 12, and special tabulations made by the Bureau of the Census for the Millinery Stabilization Commission.

ized than in the scattered fringes of the business in the minor markets in other cities. This is especially true of the industry's labor supply, almost all of which in the New York market is organized in local unions affiliated with the United Hatters, Cap and Millinery Workers Union—a national organization affiliated with the American Federation of Labor. The manufacturers are by no means fully organized. The extent of their organization may be approximated from the account given in a recent issue of one of the industry's trade journals of a report dealing with current collective agreements in the industry in the New York market made by the executive board of Local 24 of the union.[6] The report stated that market agreements with the three manufacturers' associations in the metropolitan area[7] covered 320 establishments employing 6,500 workers, and that individual firm contracts with 120 establishments covered 1,500 workers. It would seem that not less than 8,000, and possibly as many as 13,000, workers are employed by firms under contractual relations with the union. Many of the firms that are parties to union contracts, however, are such by way of individual firm contracts. In other words, they are unorganized employers severally under contract with their organized employees rather than jointly under such contractual relations by virtue of their own association. It probably is close to the truth to say that the employing manufacturers are about 60 per cent organized, as compared to labor organization running close to 100 per cent.

During the N.R.A. period the industry was under the supervision of a code authority set up under the Code of Fair Competition for the Millinery Manufacturing Industry. This code authority was not, like most of those N.R.A. instruments of industrial "self-government," a jug-handled agency wholly made up of representatives of management. Two of its members were officers of the Millinery Workers' Union.[8] This significant characteristic

[6] *Millinery Research*, April 20, 1938, p. 2.

[7] The Eastern Women's Headwear Association, the National Association of Ladies Hatters, and the Millinery Manufacturers of New Jersey.

[8] "Code of Fair Competition for the Millinery Manufacturing Industry," art. vi, sec. 3(*d*) (4 *Codes of Fair Competition* 1, 9; *Federal Trade and Industry Service*, par. 15659).

of the N.R.A. setup for this industry doubtless was one of the circumstances responsible for the distinctly favorable experience of this industry with the system of code control. Certainly it is true that although there were in the industry many highly articulate critics of the code system, the majority, both of workers and of managers, were satisfied with that system, believed that it was beneficial to the industry, and lamented its passing.

The millinery code authority passed out with all the others on May 27, 1935, when the code system was "schechtered" by the Supreme Court. Within a very few months the representatives of the organized workers and the organized manufacturers in the great New York market were discussing plans for the establishment of an administrative agency to take the place of the N.R.A. code authority. After extended conferences the union and the Eastern Women's Headwear Association reached agreement upon a plan. It contemplated the creation, through an agreement supplementary to the regular labor agreement between the two organizations, of a commission of three persons having no connections either with labor or management in the industry, the personnel of the commission to be jointly agreed upon by the union and the association. Pursuant to this plan, the Millinery Stabilization Commission, Inc., was established in February, 1936, through a supplementary agreement subscribed to by the union and the association. The first paragraph of this agreement fairly reveals the considerations which prompted the creation of the Commission:

> A close study of the Millinery Industry since the National Recovery Act was declared unconstitutional reveals the fact that the Millinery Industry is now in a state of chaos due to the lack of planning and to the breaking down of the trade practice provisions in its former code, so that neither the employers nor their workers can have any assurance of security either in the obtaining of business or in the obtaining of employment. A coordinating agency should be set up with the cooperation of both employers and workers which should supply the necessary information concerning the management and the conduct of the Industry and should devote itself to the consideration of plans and policies for the rehabilitation of the Industry so that the present aimless and planless tendencies of the Industry may be curbed and the evils from which it is suffering checked.

The agreement outlined the powers and duties of the Commission and defined its objectives in the following words:

> The purpose of the said Commission shall be to formulate fair trade practices and to govern the relationship of the members of the Industry toward each other and toward other factors in the Industry; to obtain from all members of the Industry in New York City reports as to operating costs in all factories, to survey the Millinery Industry, to study its evils and formulate and execute plans for its rehabilitation, to receive complaints of violations, to provide hearings thereon and to adjust such complaints.

The agreement gives the Commission the right to examine the books of the firms affiliated with it. The audits of manufacturers' books which have been made in this way have supplied important information not previously available as to the economic condition of the industry. This paper aims to set out certain facts about the state of the trade that have been revealed by analysis of the audits made by the Commission's accountants.

II

The analysis covers that part of the millinery manufacturing industry which is carried on in the New York metropolitan area. It is over this area—embracing the New York City and New Jersey markets—that the Millinery Stabilization Commission has jurisdiction.

In August, 1938, about 600 firms, including about 33 New Jersey concerns, were signatory to the Commission's "Certificate of Compliance." The Commission's accountants have made more or less complete audits of the books of the major part of these registered firms. Substantially complete profit-and-loss statements were secured from 199 identical firms for 1935 and 1936. Similar full reports were secured for 73 additional firms for the year 1936 only. Fragmentary reports were on file for 155 additional firms. Thus a total of 427 firms had submitted more or less complete statements. The present study is based upon the 272 substantially complete reports, and particularly upon the reports for the 199 firms quite fully covered for both 1935 and 1936.

It should be noted that the audit-report sheet used by the Commission's agents in making the audits calls for certain information

additional to the conventional profit-and-loss-statement items. The supplementary data thus collected include

1. The usual profit-and-loss-statement items
2. Price-range (per dozen hats, wholesale)
3. Percentage of sales made through
   a) Jobbers
   b) Buying syndicates, which operate leased departments in large retail stores
   c) Retailers, direct
   d) Other channels
4. Number of firm members
5. Number of workers, classified by craft

The data upon the audit-report sheets, after editing, were transcribed to tabulation cards carrying space for entry of cost-and-expense ratios, percentages of change from year to year, etc. The analysis which follows is based chiefly upon the profit-and-loss statements. It makes supplementary use, however, of the other classes of data listed above, especially the figures on sales channels and on the number of workers and firm members.

The returns are incomplete in some particulars. This is true especially of several detailed items of indirect expense. Fortunately the figures for total indirect expense—overhead—are available for all firms. Of the 272 firms for which there are usable reports—and which reports are the principal foundation for the present analysis—73 reported for 1936 only. Of the 272 usable reports 265 furnished classified returns on the number of workers employed and 250 supplied figures on salaries paid officers and firm members. Almost all of the usable reports carry information as to number of firm members.

Unfortunately it was not feasible to secure figures on the physical, or unit, volume of production of the reporting firms. The absence of unit-volume data is serious since it makes it impossible to ascertain whether, e.g., increased dollar volume reflects increased physical volume or merely higher commodity prices.

There is little doubt that the firms whose reports are analyzed herein are, on the average, more efficient and more successful businesses than the general run of the nonreporting firms in the industry. Certainly the reporting firms keep better books than

the nonreporting firms. There are, of course, exceptions. Bookkeeping methods in the industry are, in general, slipshod. Accounts too often are kept on the cuff or under the hat. Even in the case of the reporting establishments, firm-to-firm variations in practice precipitate difficulties in making comparison of results. Thus, what one concern charges to selling expense another debits to salaries. Where selling expense or salaries are not separately shown, one or the other, or both, may be concealed under "administrative expense." Since most of the reporting firms are very small partnerships or individual proprietorships, paying practically no salaries except such as are paid to the proprietors or firm members, it follows that the personnel of the groups receiving profits and salaries, respectively, are substantially identical. There is, therefore, a somewhat similar shifting of bookkeeping entries between "profits" and "salaries." So, some firms which turn up in the red are seen to have done quite well in the matter of salary drawings, and, on examination, to have been more successful, financially, than certain other firms that were definitely in the black on the face of the audit. Careful scrutiny of the figures suggests, however, that shifts such as these, although they evidently occur rather frequently, are not common enough to produce an inverse correlation between profit and salary rates.

When the dollar amounts of the several profit-and-loss-statement items, the percentage distribution of sales, and the numbers of classified workers and of firm members for each firm had been transferred to tabulation sheets, the percentage of its profits, or losses, to its gross sales was calculated for each year for which amounts of gross sales and of profits, or losses, were reported. The 272 tabulation cards were then given firm numbers corresponding to their rates of profit on gross in 1936, Firm No. 1 being the concern whose rate of profit in 1936 was highest and Firm No. 272 the one whose rate for that year was lowest. When calculations on the 272 individual-firm tabulation cards were complete, there were five sorts of data on them: absolute dollar amounts; percentage changes, 1935–36, in these dollar amounts; ratios, i.e., percentages, to gross dollar volume of sales; per-

centage changes, 1935–36, in these ratios; and points of difference, between 1935 and 1936, in the ratios of net profit, or loss, to gross dollar volume. The data may be classified as follows:

Original data:

1. Dollar amounts of gross sales and profit-and-loss items
2. Percentages of sales through each of the three principal channels of distribution
3. Number of workers in each of the four crafts
4. Number of firm members
5. Amount of capital

Derived data:

1. Percentages, or ratios, to gross dollar volume of each dollar amount in profit-and-loss statement
2. Percentages of change, from 1935 to 1936, in ratios to gross in 1, above
3. Percentages of change in the dollar amounts of profit-and-loss items and of gross sales
4. "Points of difference" between profits ratios for 1935 and the same ratios for 1936
5. Total numbers of employees in all crafts and averages of these totals obtained by averaging the totals for the two seasons
6. Estimated average yearly earnings of workers, obtained by dividing the amounts shown in the profit-and-loss account as paid to direct labor by the corresponding average numbers of employees of all crafts
7. Estimated average yearly salaries of officers and firm members, obtained by dividing the amounts shown in profit-and-loss account as paid in salaries by the number of firm members
8. Percentages of change in average yearly labor earnings, obtained by dividing the average for 1936, as derived under 6 above, by the corresponding average for 1935

In summarizing these several sorts of data, two varieties of averages have been utilized: the arithmetic mean, or the ordinary garden variety of average, and the median. These two averages are alike in that they both are devices for discovering, and measuring as accurately as possible, whatever central tendencies there may be in the figures studied. The ordinary average is better for some purposes; the median is more reliable for other purposes. Thus, when we examine a long series of "percentages of change" the median seems to be a more accurate measure of whatever central tendency there may be in the series.

The ordinary averages have been calculated by aggregating the dollar amounts of the several items for all the firms in each price group and dividing by the number of firms reporting the respective items. The ordinary averages for all of the firms, irrespective of price range, similarly have been found by adding the dollar amounts and dividing by the total number of firms. Average profit-and-loss-account ratios have been found by aggregating the gross-dollar-volume amounts for the firms which the average is to cover, aggregating the dollar amounts of the profit-and-loss-account item, e.g., amounts paid for materials, and then dividing the first aggregate into the second.

The medians have been found by arranging the firm items desired to be averaged in a continuous series, beginning with the largest item and ending with the smallest (in the case of profits or profit ratios, ending with the greatest loss, or loss ratio), or vice versa, and then spotting the middle item, i.e., the median. Thus, when profits, or losses, are so handled the median or profits figure for 1935 turns out to be —$144 or a loss of $144 for the median, or average, firm; when profit, or loss, ratios are so handled, the median for 1936 appears as —0.2 per cent, and when changes in dollar volume for the 199 firms are so treated the median turns out to be 5.9 per cent, indicating that, on the average, dollar-sales volume increased 5.9 per cent from 1935 to 1936.

Examination of the statistical results of the analysis of the business experience of the 199 firms whose accounts were analyzed leads to some conclusions that are believed to be significant. First of all, it should be said that at almost every point the data make it evident that the condition of the industry—as Calvin Coolidge was reported to have said about the condition of the country in the later Hoover years—"is not good." A small—a very small—proportion of the firms are operating successfully. The bulk of the trade, indubitably, is skating along just over the edge on the red-ink side. Moreover, there are, additionally, about as many which are deep in the red as there are concerns safely in the black. The circumstances contributing to this deplorable business situation are numerous and complex. To a considerable degree, no doubt, they are unfathomable. Certainly no pretense is made here

to fathom them or exhaustively to explore them. The present aim is a less ambitious one. It is to examine the limited and none too accurate records that we have at hand with an eye to the discovery, if possible, of some of the operating conditions and practices that seem to spell out business success and some of the conditions and practices that seem to spell out failure.

The data we use are the same as those analyzed in the attempt made in the previous section to throw some light on the condition of the industry at present and in the near past, namely, the profit-and-loss accounts of our 272 reporting firms and, particularly, of the 199 identical firms reporting for both 1935 and 1936.

The method used is that of segregating the concerns which have experienced marked success—the "good" firms—lining them up on one side for some scrutiny of their habits, and similarly herding off to the other side the firms which, on the record, are clearly demonstrated business failures—the "bad" firms—and giving them the same sort of once-over. The criterion of "goodness" and "badness" used here is the magnitude of the rate of profit. It was not—and is not now—expected that such an exploratory stratagem could possibly do more than provide the basis for intelligent hunches which, in turn, could be the basis for a few common-sense suggestions that might help the industry to inch along hereafter in the general direction of what millinery men wistfully call the "black," instead of creeping lower into the "red." It is realized that often the untoward results that in these pages we blithely charge to syndicate selling or to failure to sell "net"—or, at least, at 7/10 E.O.M.—may, in many instances, be due to bad luck, or chance, or to "acts of God." It is not forgotten, either, that relations among operating factors or conditions that appear to be causal may in fact not be so at all.

III

We turn now to what the record shows as to the business experience in 1935 and 1936 of the 10 per cent of the 199 firms which earned the highest rates of net profit as compared with the experience of the 10 per cent of the firms which incurred the heaviest losses in those years. Comparison of the operating conditions ex-

isting in, and the business practices followed by, the markedly successful and the markedly unsuccessful firms, respectively, suggests some obvious answers to the question: What shall the millinery manufacturer do to be saved? As to some aspects of their business experience the lessons brought home are unmistakable; as to some they are inconclusive.

Consider first the two points in respect to which the lessons are inconclusive—namely, the important matters of the discount rate and the distributive channel used. It is not clearly demonstrated that the more successful firms are less prone to sell through buying syndicates.[9] Neither is the reverse of this proposition proved. It appears that, in so far as the 183 firms reporting selling channels may be considered a representative sample, there is no noticeable correlation between the profitability of the manufacturers' business operations in 1936 and the extent of their dealings with the syndicates. The data of Table 1 indicate that both the "best" and the "worst" firms dealt less generally with syndicates than did the general run of firms, and that the most successful firms dealt with them more than the unsuccessful ones. The data for 1935 in the same table also indicate that both the 10 per cent "best" and the 10 per cent "worst" firms used the syndicate method of selling less extensively than the general run of firms. Aside from this, the data for 1935 are flatly contradictory, the data based on ordinary averages showing a more general reliance upon syndicates by the "best" than by the "worst" concerns and the data based upon medians showing precisely the reverse. It further appears that the 10 per cent of the firms which showed the greatest improvement from 1935 to 1936 in their profit positions sold smaller proportions of their goods through syndicates than did the 10 per cent of the firms which suffered the greatest increases in losses. Here the result is the same whichever type of average is used. And the data also indicate that the firms which improved most and those which declined most resorted less extensively to syndi-

[9] What is known in the millinery industry as a "syndicate" is an individual, partnership, or corporation which leases the millinery departments in department stores or specialty shops, carrying on its selling operations under the names of the individual stores and its buying under its own name.

TABLE 1

COMPARISON OF OPERATING RESULTS IN 10 PER CENT MOST SUCCESSFUL ("BEST") AND 10 PER CENT LEAST SUCCESSFUL ("WORST") FIRMS AS MEASURED BY RATES OF NET PROFIT TO GROSS SALES—1935 AND 1936

(Criterion of Relative Business Success or Failure = Ratio of Net Profits to Gross Sales)

ITEM	TYPE OF AVERAGE	1935			1936		
		Best Type	Typical Type	Worst Type	Best Type	Typical Type	Worst Type
		21 Firms	199 Firms	21 Firms	20 Firms	199 Firms	20 Firms
		(1)	(2)	(3)	(4)	(5)	(6)
Per cent net profits to gross	Median	11.7	0.1*	8.6*	10.5	0.2*	10.6*
	Mean	11.9	.....	9.9*	12.5	.....	12.1*
Per cent to gross of Salaries	Median	6.3[a]	.....	10.2	9.3[k]	.....	9.1
	Mean	9.8	6.7	11.4	9.7	6.2	10.5
Discounts on sales	Median	6.7	.....	6.5	6.6	.....	5.8
	Mean	5.6	6.0	5.8	5.7	6.2	5.4
Materials (net)	Median	40.9	.....	41.3	40.2	.....	48.3
	Mean	39.2	41.5	40.1	39.2	43.5	47.1
Labor	Median	25.1	.....	31.2	23.2	.....	27.9
	Mean	26.8	27.9	31.7	22.3	26.9	27.3
Gross profit	Median	27.9	.....	23.4	30.2	.....	22.7
	Mean	28.9	24.6	22.4	32.8	23.5	20.3
Administrative expense	Median	6.7	.....	11.0	8.0[f]	.....	11.2
	Mean	6.8	7.8	12.2	8.7	7.8	11.5
Selling expense	Median	5.6[b]	.....	5.3[h]	5.0[f]	.....	5.5
	Mean	4.8	5.7	5.5	4.9	5.4	6.0
Blocks and dies	Median	1.4[e]	.....	1.3[l]	1.1[l]	.....	2.1[e]
	Mean	1.6	1.3	1.9	1.4	1.3	2.2
Shipping expense	Median	1.9[d]	.....	2.6[d]	1.7[b]	.....	2.9[f]
	Mean	2.0	2.7	2.9	1.7	2.8	3.0
Total (indirect) expense	Median	16.2	.....	32.3	19.0	.....	34.7
	Mean	17.0	24.1	32.3	21.3	23.3	32.2

TABLE 1—*Continued*

Item	Type of Average	1935			1936		
		Best Type	Typical Type	Worst Type	Best Type	Typical Type	Worst Type
		21 Firms	199 Firms	21 Firms	20 Firms	199 Firms	20 Firms
		(1)	(2)	(3)	(4)	(5)	(6)
Average annual labor earnings (dollars)	Median	889	.....	950	771[b]	1,007	670[f]
	Mean	918	1,077[a]	958	816	1,118	701
Average annual salaries (dollars)	Median	3,516[a]	.....	1,580	2,410[k]	.....	1,635[f]
	Mean	3,000	3,647	2,149	2,676	3,622	1,959
Gross volume of sales (dollars)	Median	68,466	78,113	45,250	50,167	.....	39,785
	Mean	91,792	99,013	50,516	81,992	107,102	51,356
Per cent total sales to syndicates	Median	37.5[b]	.....	31.5[b]	40.0[c]	.....	30.0[b]
	Mean	32.0	41.0	38.0	34.0	41.0	32.0
Number of employees (average of 2 seasons)	Mean	25.6[f]	25.6	18.2[j]	.....	.....	.....

[a] Indicate loss.
[b] Based on 18 firms.
[c] Based on 15 firms.
[d] Based on 17 firms.
[e] Based on 14 firms.
[f] Based on 19 firms.
[g] Average for U.S., calculated from census reports for New York State, is $1,200.
[h] Based on 20 firms.
[i] Based on 13 firms.
[j] Based on 20 firms.
[k] Based on 10 firms.

cate-selling than the general run of firms. Finally, it has been shown that when the distribution-channel percentages are broken down by price-range groups, the price group which showed the least successful results—both in 1935 and in 1936—was the group which sold more extensively through syndicates than did any of the other price groups.

The other factor in respect to which the data are inconclusive is that of discounts on gross sales. When the 10 per cent of the 199 firms with the highest rates of profit in 1936 and the 10 per cent of them which incurred the heaviest losses are separately segregated and their operating characteristics compared, we find

that discounts were somewhat higher in the most successful, and somewhat lower in the least successful, firms. The corresponding comparison for 1935 is inconclusive, pointing to discounts higher in the successful than in the unsuccessful firms where the ordinary average is used, and to discounts lower in the successful than in the unsuccessful firms where the median average is used. The data on discounts indicate that, along with the general increase in discount rates from 1935 to 1936, there was a somewhat greater increase in discounts in the 10 per cent of the firms with the highest rates of profit and in the 10 per cent of the firms with the greatest rates of loss, but that the rate of increase in the discount rate was somewhat higher in the "best" than it was in the "worst" firms. When, however, the 10 per cent of the 199 firms which increased their profit positions most between 1935 and 1936 are compared with the 10 per cent of them which suffered the greatest increase in losses in that period, it appears that, while the discount rate in the general run of firms increased about 1 per cent, on the average, it increased 3 per cent among the firms whose losses declined most, at the same time that it declined about one-half of 1 per cent among the 10 per cent of the firms whose profits increased most.

Evidently, then, neither the allowance of high discounts nor the heavy concentration of sales through syndicates is necessarily fatal to success. Some millinery manufacturers, it seems, are making fair profits either in spite of, or because of, their policy on discounts and their practice in respect to syndicate selling. If two firms have exactly the same cost and expense ratios—apart from discounts—and the same sales volume, it would seem that that one will do best which operates with the lower discount rate. Whether the same conclusion can be drawn with respect to syndicate selling it is impossible to say. Finally, it must be emphasized once more that the data on discounts are seriously vitiated by the fact that many firms achieve a technical avoidance of discounts by selling at proportionately lower "net" prices.

When we turn, however, to other aspects of the businesses examined, we find such clear contrasts between the conditions and characteristics marking the strikingly successful firms, on the

one hand, and those marking the strikingly unsuccessful ones on the other hand, that the lessons implied in the two sets of experiences seem fairly obvious. It appears from the data in Table 1 that in both years the firms that enjoyed the highest rates of net profit had much higher gross profits per dollar of gross sales than did the firms which incurred the heaviest net rates of loss. For the "best" firms gross profits were 28 cents on the dollar for 1935 and 30 cents for 1936. For the "worst" firms gross profits were 23 cents on the dollar in each year. For the 200 firms gross profits were 25 cents on the dollar in 1935 and 24 cents in 1936. This superiority of the "best" firms in respect to gross profits evidently was the result of lower ratios to gross for both materials and labor. The "worst" firms spent for materials 41.3 cents on the dollar in 1935 and 48.3 cents on the dollar in 1936, while the "best" firms spent for materials only 40.9 cents on the dollar in 1935 and only 40.2 cents in 1936. For direct labor the "worst" firms spent 31 cents on the dollar in 1935 and 28 cents in 1936, while the "best" concerns spent only 25 cents in 1935 and 23 cents in 1936.

This does not mean that the "best" firms profited at the expense of labor or that either the rates paid to labor or the earnings of the workers were lower in the more successful firms. The evidence on the whole indicates on the contrary, as will be set out more in detail below, that although in 1935 the workers in the "best" firms had lower average yearly earnings than did those in the "worst" firms, in 1936 the workers in the "best" firms had appreciably higher annual earnings than did those in the "worst" firms. It will be noted also that the changes in labor earnings from 1935 to 1936 were more favorable for workers in the "best" than for those in the "worst" firms and that the "best" firms appear to employ more workers than the "worst" ones. It would seem, therefore, that the advantage of the "best" firms in respect to unit labor costs was built upon better management and utilization of the labor power of their workers rather than upon the cutting of wage rates or the restriction of employment.

Where the comparison is made in terms of "change" of conditions rather than conditions existing in a given period, the evidence respecting the rate of gross profit and its component rates

confirms the implications of Table 1. It appears that while the rate of gross profit in the firms whose 1936 rates of net profit were lowest had declined 16 per cent, the corresponding rate had increased 5 per cent, on the average, in the firms whose 1936 rates of net profit were highest. The number of cents on the dollar paid for materials had increased 2.5 per cent in the "best" and 6.7 per cent in the "worst" firms. The number of cents on the dollar paid for direct labor decreased 3.7 per cent in the "best" while it increased 2.8 per cent in the "worst" firms.

Similar contrasts appear in the figures on indirect costs. Here, indeed, we note the most striking contrasts of all. It appears from the data in Table 1 that while the "best" firms, on the average, had indirect costs of 16 cents on the dollar in 1935 and 19 cents in 1936, the "worst" firms staggered under overhead burdens of 32 cents on the dollar in 1935 and 35 cents in 1936. Examination of the five classified items of overhead indicates that the superiority of the "best" firms was chiefly due to their lower cost ratios for administrative expense and shipping costs. Although in 1936 all of the four items shown were lower for the "best" than for the "worst" firms, in 1935 the "best" firms incurred slightly higher unit costs for selling and for the purchase of blocks and dies than did the "worst" firms.

The figures reflecting comparative changes in overhead costs in the "best" and "worst" firms carry a similar message. The firms whose rates of net profit were highest in 1936 had achieved, since the previous year, a reduction of 9 per cent in the number of cents in each sales dollar spent for overhead, while those whose profits in 1936 were least, i.e., net losses greatest, had suffered an increase of 2 per cent on the average in the number of cents per sales dollar laid out for overhead. The firms which were in the "best" position in 1936 had managed to reduce unit costs of administration 13 per cent, while in the firms in the "worst" positions in that year such costs increased 13 per cent. Similarly, unit costs of selling had declined 18 per cent in the "best" firms and 5 per cent in the "worst" firms. Unit costs of blocks and dies had declined 17 per cent in the "best" while they increased 16 per cent in the "worst." Unit costs of shipping had declined 5 per

cent in the best while they increased 9 per cent in worst. Unit costs of salaries of firm members had increased 13 per cent in the best while they increased 23 per cent in the worst.

Average annual labor earnings in the "best" firms were about $889 in 1935 and $771 in 1936 while in the "worst" concerns they were $950 in 1935 and $670 in 1936. Such earnings in the firms with the highest rates of profit in 1936 had increased 2 per cent since the year before while in the "worst" firms they had declined, on the average, 18 per cent. As might be expected the average yearly salaries of firm members in both years were uniformly higher in the "best" than in the "worst" firms. The change in average salaries, however, seems to have been less favorable in the "best" than in the "worst" firms. In the firms which were in the worst profit position in 1936 average salaries had declined 3 per cent from the previous year while in the best firms they had declined 10 per cent.

Some significant comparisons may be made between the "best" and the "worst" firms relating, not to ratios-to-gross, but to the changes in the absolute dollar amounts expended. While the 200 firms, on the average, disbursed 12 per cent more in discounts in 1936 than in 1935, the "best" firms expended 14 per cent more and the "worst" ones 1 per cent less—a "fact" which would be more disconcerting if we were unaware of the frequent sales on a "net" basis and of their distorting effect upon the figures. The firms which were in the "best" profit position in 1936 had increased the amount spent for materials 8 per cent since the previous year, in contrast with the concerns in the "worst" profit—loss—positions that year, which had increased their disbursements for materials 20 per cent, while for the whole 200 firms such disbursements had increased 13 per cent. Similarly, the concerns which were in the best profit position in 1936 had increased the amount spent since 1935 for direct labor by 4 per cent, while the firms in the worst position that year had reduced such payments 6 per cent since 1935.

The data on dollar volume for the "best" and "worst" firms are not less significant than the figures on other operating items that have been reviewed. The "best" firms definitely have had much

more volume than the "worst" firms. In 1935 the average volume for the "best" firms, using the ordinary average, was about $92,000, in contrast with $50,000 for the "worst" firms, while the whole 200 firms averaged $100,000. Differences of the same sort are evident for 1935. The contrast is no less striking with respect to changes in volume. The firms which in 1936 had the highest rates of profit had experienced an increase in volume over the previous year of 8 per cent, while the firms which were on the lowest loss levels in 1936 had suffered declines of 19 per cent in dollar volume since 1935.

The long-run, low-profits situation in the industry doubtless is due to many causes. Excessive discounts and, particularly, materials costs are part of the answer. Overhead and selling and administrative costs are another part. Managerial inefficiency and inefficiency of labor play their roles. Although wages—and especially wage rates—are high in this industry compared to many other trades, they are certainly not too high. Moreover, it is not workers' earnings or even weekly wage rates that are relevant here; it is labor cost per unit of output, which conceivably may be cut down by better management and more skilful application of his labor by the worker without the necessity of a wage cut.

IV

The Commission's campaign of stabilization has centered largely upon the encouragement of adherence by the manufacturers to a code of trade practices, promulgated and supervised by it. Its principal instrument for the improvement, standardization, and control of trade practices is the Consumers' Protection Label, the distribution and use of which is in the hands of the Commission. All manufacturers who are members of the Eastern Women's Headwear Association (New York City) and the New Jersey Millinery Manufacturers' Association are signatories to the Commission's certificate of compliance by the terms of which they agree to use the label upon all hats manufactured. Independent manufacturers, not members of any of the manufacturers' associations, likewise sign individual certificates of compliance. Manufacturers failing to conform to the trade practices pro-

mulgated, after hearings by the Commission, are not permitted to use the label in the hats which they manufacture. Under the agreement the union obligates itself not to work on hats without labels.

The "stabilization agreement" constitutes a kind of charter of labor-management co-operation—a joint enabling act—designed to vest in a jointly constituted, impartial body the authority so far as possible to effectuate the policies stated or implied in that document. The administrative body set up by it is, in effect, a sort of unofficial "code authority" for the millinery industry. For the present, at least, its jurisdiction is limited to the New York and New Jersey markets—a geographical restriction which scarcely can be lifted until the minor, nonmetropolitan markets achieve something like the degree of organization among their manufacturers and workers that has been attained in the New York area.

In that area both workers and manufacturers are strongly organized. They are definitely committed to the principle, and long have been accustomed to the practice, of collective bargaining. They are case-hardened to life under collective labor agreements. For years they have wrangled before their impartial chairmen over disputes about the meaning and application of the provisions of these contracts. But the persistently low state of the trade had convinced them, before the Schechter decision was a year old, that it was in need of more steadying than it was getting by way of the stabilization of labor costs through long-term collective agreements. They suspected that trade as well as labor practices needed correction. The easy entrance of new employers into the trade, its extreme seasonality, the striking domination of its affairs by style, the extremely small size of the average manufacturing unit, the superior integration and trading power of the raw materials markets in which producers of millinery had to buy—and, still more, in the jobbing and retail markets in which they had to sell—these and other adverse circumstances combined to produce a "squeeze" which generated in all but a few of the ablest and most firmly established of the manufacturers an irresistible pressure to cut their prices below their costs. The union

and the association at any rate were acutely aware of the results: a business mortality rate of around 25 per cent a year, spelling bankruptcy for many manufacturers and unemployment for many workers, and an average rate of profit of almost exactly zero. They concluded, therefore, that if they were to have any work places to keep conditioned by the process of collective bargaining, ways must be found to tone up the business practices which appeared to be impoverishing both employer and employee.

Hence, the Millinery Stabilization Commission. To it the union and the association gave a wide charter of authority to standardize trade practices; to promulgate trade-practice rules agreed upon after investigation and hearing; to induce conformity with the promulgated rules of business practice by the requirement of the use, by all producers conforming to such rules, of a Consumers' Protection Label for the sale and distribution of which the Commission was made responsible; to examine and audit the books of the member manufacturers to ascertain when goods were being sold at less than the cost incurred in their production; to aid the manufacturers in the development of cost-accounting methods better calculated to prevent them from selling goods at less than their costs of production; and generally to study the folkways of the trade and periodically to examine the economic condition of the industry.

The figures which have been passed in review seem to indicate that the bad condition of the industry cannot be charged primarily to syndicate selling or to undue yielding by the manufacturer in the matter of discounts. True, other factors being the same, the manufacturer will certainly be more successful if he keeps discounts down than if he does not. He will also fare better if he successfully resists the buying pressure of syndicates—or, for that matter, of any other buying group—than if he does not so resist. But, by and large, it seems to be true that the chief enemy of the millinery manufacturer is himself. More precisely the chief obstacle to profitable results is poor management, insufficient attention to such overhead items as administrative and selling costs, lack of sustained effort in the direction of economy on overhead, utilization of labor, and the buying and use of raw

materials. It was not merely luck that enabled 10 per cent of the 200 firms to make around 10 per cent net profit both in 1935 and 1936. A large part of the answer to the question, How did they do it? is embalmed in the comparative figures which have been here reviewed.

Finally, it will have been noticed that the analysis which has been made of the contrasting business experiences of the "best" and the "worst" in millinery manufacturing strikingly confirms the theory upon which the manufacturers' association and the union acted in embarking upon the campaign of stabilization which it is the function of the Millinery Stabilization Commission—their joint creation—to promote. Labor *does* stand to gain by improvement of the profit position of the firms to which it sells its services. Increased employment, maintained high rates of wages, and sustained and increased labor earnings are not to be squeezed successfully out of establishments that are struggling over head and ears in the red. Management does stand to gain by full co-operation with a labor organization wise enough to recognize the mutual gains to be won by a joint campaign for the elimination of the bad practices that explain business failure. The millinery manufacturers of the New York–New Jersey metropolitan area have demonstrated their practical wisdom in committing themselves to such co-operation.

MEASUREMENT OF OBSOLESCENCE OF CAPITAL GOODS

C. EMERY TROXEL[1]

THE principal objective of this paper will be the suggestion of methods by which obsolescence, exclusive (in so far as it is possible) of all other categories of depreciation, may be measured.[2] Following general comments on the nature of a procedure for calculating obsolescence, there will be statements about the means of measurement of several different cases of obsolescence. Next, there will be comments on determination of the time when an improvement will displace installed equipment. No especial attention will be given the general economic issues of technological unemployment; wage, income, and output matters; demand characteristics of the product or products; or differences in the opportunities of competitors. The paper will be devoted, therefore, to measurements of obsolescence of a piece of equipment, particularly a single firm's equipment, or, at the most, of capital goods of a single industry.

Because the concepts of depreciation and obsolescence of capital goods are subject to a variety of interpretations, definitions of them are needed. "Depreciation of capital goods," therefore, is arbitrarily defined as the decline, anticipated or unanticipated, in their value for any reason. "Obsolescence" is defined similarly as the decline, anticipated or unanticipated, in the value of capital goods because of the economies or profitability of technological changes, a secular decrease in the demand for the products produced with the assets, or governmental policy. The succeeding algebraic expressions, however, present means of measuring what

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[2] The general algebraic expressions presented in an earlier article by the author have been expanded in number, have been revised, and are now made applicable to several ways in which obsolescence appears. See "Economic Influences of Obsolescence," *American Economic Review*, XXVI (June, 1936), 280–90; also "Obsolescence of Public Utility Property," *Journal of Land and Public Utility Economics*, XIV, Part I (August, 1938), 266–72; *ibid.*, Part II (November, 1938), pp. 431–41.

may be called "unanticipated obsolescence," resulting from a particular change.

Obsolescence and other types of depreciation of capital goods, however, are commonly lumped together when periodic allowances for depreciation are made. Seldom do accountants, for instance, make separate calculations to determine the extent of obsoleteness. Rather, uniformity of depreciation allowances is widely advocated, a practice that belies particular attention for the gradual appearance of complete obsolescence in a stock of capital goods. There may be, however, occasional bald estimates of the amount of accrued obsolescence, or there may be a rough calculation of the existing or expected obsolescence when a value of an asset—usually the original cost—is written off as quickly as possible. Perhaps the cautiousness of accountants, which causes them to write off hastily the cost of an asset, is justified whenever a forecast of obsolescence is involved. Yet obsolescence is attributable to events notably different from depreciation because of use of capital goods, and, therefore, a distinctive means of measurement of obsolescence, sometimes may be warranted.

Several of the ways in which obsolescence occurs may be noted. Chiefly because of inventions, changes in production methods constantly appear to affect the value of existing assets. Perhaps the improvement effects lower per-unit costs than the old equipment, which makes—where prices remain unchanged—the new equipment comparatively more profitable. Or the technological changes may result in improvements of the product. A higher per-unit price may be obtained for the improved product than for the output of the old machine, and, thus, where per-unit costs are alike, the new machinery will be preferred. Consequently, because a firm's profits would be increased, installed equipment may be scrapped before its "physical" usefulness has expired.

Sometimes obsolescence in capital goods arises when there has been a decline in demand for the goods processed with the equipment.[3] This seems particularly to be true when there has been a

[3] Inadequacy is not being considered here. But it may be of interest to note that, whereas a decrease in demand may contribute to obsolescence, an increase in demand may lead to inadequacy of existing assets.

permanent or secular change in buyers' habits. Occasionally a decline in demand for a product is traceable directly to technological changes. Among the historical examples of this situation one might recall the obsolescence of some of the equipment used by buggy-manufacturers that occurred with the development of automotive transportation. In instances like this one of buggy-builders, it may be observed that the owners of the displaced equipment are not usually the ones who produce the new product. In other respects a decline in demand for the goods of one firm or one industry, of course, does not appear to be attributable to technical improvements. Through simply differentiation of a firm's product by advertising, a trade-mark, or other selling techniques, the demand for the product of other firms may be decreased.

Although technological changes are guessed to be the principal reason for obsolescence and will be given most attention in this paper,[4] still another source of obsolescence may be mentioned. Governmental action may make existing facilities partially or completely obsolete. A disproportionate change in freight rates, for instance, may allow one firm to increase its sales with a given price at the expense of other firms producing the goods. When the Eighteenth Amendment was passed, distilleries overnight were made obsolete forever or until the amendment was repealed. Likewise, an increase in the per-pound tax on oleomargarine, for example, would affect the economic value of the equipment which is used to process the oleomargarine.

If in real cases only a few small pieces of equipment are being examined for obsoleteness, the succeeding measures may not deserve the effort involved in the use of them. But the measures may be useful wherever the obsolescence of sizable amounts of equipment is being determined. Accuracy in measurement of

[4] Some changes in method of production may increase profits for a firm, but they may not involve technological alterations. Examples of these may be rearrangements of existing machinery and men, i.e., matters commonly thought to be in the sphere of "industrial management" with its time studies and other analytical techniques. Study of these will not be included in this paper, because they probably do not affect regularly (if at all) the inherent effectiveness of a particular piece of equipment.

obsolescence, obviously, is not to be expected always from use of these formulas. Since these algebraic expressions largely concern future cost and revenue and future appearance of technological changes, a real calculation of obsolescence will be composed principally of approximations. Even adequate information on current costs may not be easily obtained. Yet the executive or accountant who is responsible for a firm's financial policy respecting obsolescence, i.e., depreciation allowances and replacements, must make such estimates. Consequently, these statements are suggested as a guide or an "ideal" about which those formulating business policy on present and future technological changes will be able to adapt their approximations.

Some of the assumptions, on which the reasoning here is based, will be stated with each of the cases. It is generally assumed, however, that there will be regular utilization through time of the "rated capacity" of both the old and the improved machines.[5] This assumption does not distort reality since, obviously, any plant at the time of its construction would not be designed to have permanently an "unused" capacity.[6] It is assumed that the same "quality" of managerial ability will be applied to the use of the old and improved techniques of production. This concept is especially applicable to the case in which the new equipment is installed by a firm or firms other than the ones using the old equipment. In cases involving competing firms the price of the new equipment will be the same for each of the competitors. Furthermore, the rate of interest, r, is the same for both the new and old equipment in the succeeding expressions.[7]

In the first case to be considered here, the obsoleteness is attributable solely to per-unit cost reductions from use of improved equipment. There is assumed to be the same unit price for the product of each type of equipment, and the output of product is

[5] It would be the same if one assumed uniform use through time of a given percentage of the rated capacity of the new and old machines.

[6] There may be deliberate construction of capacity in excess of the prevailing output in order that an anticipated increase in sales may be handled most profitably.

[7] In real cases, computation of the rate of interest may be difficult when the borrowing has been or may be done with several types of securities.

the same from the old and new equipment in each of the selected periods of time. Obsolescence in existing capital goods may be determined for this case by finding the discounted (present) value of the difference in the cost of using the new and old equipment. Determination of this sum of present worths for n periods of time (usually years) may be done in the following manner:[8]

$$\left.\begin{aligned}&\frac{[(O_1' + D_1' + I_1') - (O_1'' + D_1'' + I_1'')]U}{(1+r)} \\ &\quad + \frac{[(O_2' + D_2' + I_2') - (O_2'' + D_2'' + I_2'')]U}{(1+r)^2} + \dots . \\ &\quad + \frac{[(O_n' + D_n' + I_n') - (O_n'' + D_n'' + I_n'')]U}{(1+r)^n},\end{aligned}\right\} \quad (1a)$$

where r is the annual rate of interest paid for capital by the company; n, the number of years (or other period of time) of use remaining in the old equipment; U, the number of annual (or other period of time) units of output of each machine; $O_1', O_2', \dots, O_n'$, the per-unit operating cost, including repairs for n time periods with old machine; $O_1'', O_2'', \dots, O_n''$, the per-unit operating cost, including repairs for n time periods with new machine; $D_1', D_2', \dots, D_n'$, the per-unit depreciation cost for n time periods with old machine; $D_1'', D_2'', \dots, D_n''$, the per-unit depreciation cost for n time periods with new machine;[9] $I_1', I_2', \dots, I_n'$, the per-unit interest cost for n time periods with old machine; and $I_1'', I_2'', \dots, I_n''$, the per-unit interest cost for n in time periods with new machine.

Presentation of these measures will be interrupted in order that some essentials about the terms and nature of the expressions may be described. First, the way in which the D' and I' sums are determined will be considered. In this paper the present value of

[8] The author is indebted to Dr. Gardiner Means for the suggestion (and other suggestions too) that use of the symbols O', O'', D', D'', I', and I'' would clarify these expressions.

[9] Although $D_1'', D_2'', \dots, D_n''$ are the per-unit depreciation costs of the new equipment for periods of time equaling the remaining life of the old equipment, $D_1'', D_2'', \dots, D_6''$ may be designated as the per-unit depreciation cost throughout the expected life of the new equipment.

the forthcoming $D'U$ and $I'U$ sums will be equal to what will be called the "economic value," or "estimated economic value," of the existing equipment. This economic value is the present value of the anticipated receipts above the O' items (exclusive of anticipated scrap value) from forthcoming use of the equipment, the expectations being measured *prior* to appearance of, or to any knowledge of, the particular technological change under consideration. This economic value is equivalent to

$$\frac{(D'_1 + I'_1)U}{(1+r)} + \frac{(D'_2 + I'_2)U}{(1+r)^2} + \ldots + \frac{(D'_n + I'_n)U}{(1+r)^n}. \qquad (2a)$$

In view of the part the D' and I' items have in the expressions for measuring obsolescence and because the economic value is assumed to be calculated as though the technological change were not available, obsolescence attributable to the particular change is calculated here as a decline in the economic value of existing equipment. While only the above-defined economic value will be used in the measures, there are in reality two economic values, one determined before there is any knowledge of the technological change and the other after appearance of the change. In calculating the first economic value, however, it is not unlikely that any anticipation about the retrievable sums will make an allowance for possible future changes which may contribute to obsoleteness. In so far as obsolescence is anticipated in determining the economic value, these expressions measure the unanticipated, perhaps "extraordinary," obsolescence from particular changes. Perhaps the book value of the equipment, simply the value recorded in the firm's books prior to any knowledge of the improvement or change, is less than the economic value. In this event financial or accounting provision has been made, usually by "conservatism" of the accountants respecting depreciation allowances, for some of the obsolescence resulting from the current technological change.

Without departing from the notion of an economic value that is determined before there is any knowledge of the particular technological change, the $D'U$ sums respecting a given asset are

here conceived to accumulate by the date of expiration of the economic life of the asset to the given economic value of the asset. This is in accord with the common practice of accountants, for they make retrievement of the principal of an investment the objective of depreciation accounting. This concept of depreciation cost permits inclusion of a sum for per-unit interest cost; as the interest sum which is computed on the economic value declines, the interest sum which is computed on amounts retrieved by past depreciation allowances increases. (In view of the definition of "economic value," the concept of interest cost [the I' sums] is an arbitrary one.) Though the existing assets have been served to illustrate this description, the $D''U$ sums are determined in a like manner except that D_1'', D_2'', ... , D_n'' represents only a part of the total depreciation cost of the new equipment.

The depreciation cost of the improvement must include an allowance for the obsolescence which is anticipated during the economic life of the improvement. Unless this is done, the obsolescence in old equipment would be greater than the profitability of the improved equipment would warrant. In practice, management may frequently make provision for "normal" obsolescence (as conceived, say, by the Treasury), and sometimes depreciation allowances may be generous enough to cover all or part of the "extraordinary" obsolescence.

If repair and maintenance costs on the new equipment are expected to increase as the equipment ages, allowance must be made for this change. The O'' sums in the expressions are applicable to only a portion of the life of the equipment, the part in which the repair and maintenance expenditures may not be as high as they may be later. Unless some allowance is made for this difference in the O'' items of the expressions, the effects will be the same as though no allowance for anticipated obsolescence were made in the D'' items. Therefore, maintenance and repair expenditures are conceived to be divided in equal amounts among the periods of time into which the life of the new equipment is subdivided, i.e., any of the n periods will have the same allowance for repair and maintenance cost as any of the later periods.

Any application of these measures to real cases of obsolescence

measurement probably will necessitate calculation of the discounting and cost items on an annual basis. Annual compounding of interest will give sufficiently accurate results, and, furthermore, such calculations of obsoleteness may become increasingly more difficult as the time period is shortened.[10]

We return to the consideration of expression (1*a*). If

$$[(O_1' + D_1' + I_1') - (O_1'' + D_1'' + I_1'')] = [(O_2' + D_2' + I_2') - (O_2'' + D_2'' + I_2'')] = \ldots . [(O_n' + D_n' + I_n') - (O_n'' + D_n'' + I_n'')],$$

and, in reality, managers or accountants may make estimates of future costs in this average manner, we may use the symbol C to indicate a uniform per-unit cost differential.

Thus, expression (1*a*) may be stated in this manner:

$$\frac{CU}{(1+r)} + \frac{CU}{(1+r)^2} + \ldots . + \frac{CU}{(1+r)^n}.$$

Summation of this finite series gives the following expression for determining obsolescence:

$$CU\,\frac{1-(1+r)^{-n}}{r}. \qquad (1b)$$

The second case of obsolescence to be treated here concerns technological changes which result in "betterment" of the product. In this situation continuance of output[11] of the old-equipment product will result in a relatively higher per-unit price for the product from the improved process than for the product of the old machine.[12] Such price differences probably are most

[10] Algebraic expressions have been used throughout the paper. It is believed that a finite period of time should be used if the measurements are to serve as a basis of actual estimations of obsolescence. Consequently, it is probable that in actual measurement of obsolescence nothing more than embellishment (and perhaps confusion) will result when n is infinite.

[11] Throughout this paper, "output" and "sales" are assumed to be synonymous terms.

[12] Unless it is assumed that prices are adjusted to sell the maximum output with each type of equipment, the calculation might better be in terms of expression (5).

noticeable when some firms are producing the old product and others have begun output of the new product. Appearance of some innovation for radios, for example, may cause a manufacturer to lower the price of the old-type product even though he is manufacturing both types of products. In any event, obsolescence occurs if per-unit cost changes do not compensate for the change in prices.

Where $P'_1, P'_2, \ldots, P'_n$ and $P''_1, P''_2, \ldots, P''_n$ are the per-unit prices in n periods of time for the products of the old and new equipment,[13] respectively, where per-unit costs are the same for both products (at least where cognizance of the D', I', D'', and I'' items need not be taken), and where the other terms are defined as they are for expression (1, a and b),

$$\frac{(P''_1 - P'_1)U}{(1+r)} + \frac{(P''_2 - P'_2)U}{(1+r)^2} + \ldots + \frac{(P''_n - P'_n)U}{(1+r)^n} \qquad (3a)$$

will measure the obsolescence in the old machine. If $P'_1 = P'_2 = \ldots P'_n$ and if $P''_1 = P''_2 = \ldots P''_n$, summation of this finite series gives

$$(P''_1 - P'_1)U \frac{1 - (1+r)^{-n}}{r}. \qquad (3b)$$

Perhaps, however, the unit cost of the goods produced with the improved equipment, the product of which may be sold for a higher price,[14] is either higher or lower than per-unit cost of the old product. If the unit cost of production is higher for the new than for the old equipment, use of expression (1b) (expression

[13] Even though the technological changes were solely in terms of cost reductions, it is conceivable that ultimately part or all of the firms utilizing technological changes would have to reduce prices. In viewing such technical improvements of all firms instead of a single firm, attempts, for instance, to effect cost reductions by means of a more economical use of labor obviously may reduce the income available for the purchase of goods. And, in turn, prices may be drawn down. These income, price, and output relationships have been discussed elsewhere; see "Economic Influences of Obsolescence," *loc. cit.*

[14] Selling costs may be increased, for instance, because buyers may have to be convinced that a higher price is deserved for the product of the new equipment.

[1*a*] may be used) as the second member of the expression gives this measure of the present value of the improvement to the owner of the old equipment:

$$\left[(P_1'' - P_1')U\,\frac{1-(1+r)^{-n}}{r}\right] - \left[CU\,\frac{1-(1+r)^{-n}}{r}\right]. \quad (3c)$$

Perhaps, however, the unit cost is lower and the unit price is higher for the product of the new equipment than for the product of the old equipment. If the other circumstances are the same as those stated above, under the latter price-cost conditions expression (3*c*) will be revised so that the second member will be added to, rather than subtracted from, the first member; i.e., the second term will be negative.

The third case deals with technological changes resulting in per-unit cost reductions only when there is a larger output. A lower per-unit price results, *ceteris paribus*, from the sale of the larger output. Not only does this circumstance necessitate calculation of the present value of the cost reductions, but, in addition, allowances must be made for the decrease in unit price and for the additional profits (if there are any) from the sale of the additional output.

After the unit of improved equipment which can be most profitably operated has been chosen, expression (1*a*) or (1*b*) would be employed to determine the present value of the cost reductions it can effect. Then, let $F_1, F_2, \ldots, F_n$ be the decrease in the per-unit price in n periods of time at which the larger output of the product would be sold. Thus, the obsolescence attributable to cost reductions will be decreased by a sum equal to

$$\frac{F_1U}{(1+r)} + \frac{F_2U}{(1+r)^2} + \ldots + \frac{F_nU}{(1+r)^n}. \quad (4a)$$

Or, where $F_1 = F_2 = \ldots F_n$, we have

$$F_1U\,\frac{1-(1+r)^{-n}}{r}. \quad (4b)$$

Where P′ is the unit price *before* the improvement appeared and where U_a is the additional output,

$$\left.\begin{aligned}&\frac{[(P' - F_1) - (O_1'' + D_1'' + I_1'')]U_a}{(1+r)} \\ &\quad + \frac{[(P' - F_2) - (O_2'' + D_2'' + I_2'')]U_a}{(1+r)^2} + \dots . \\ &\quad + \frac{[(P' - F_n) - (O_n'' + D_n'' + I_n'')]U_a}{(1+r)^n}\end{aligned}\right\} \quad (4c)$$

measures the increase in obsolescence because of the additional profits of more sales.

If $(O_1'' + D_1'' + I_1'') = (O_2'' + D_2'' + I_2'') = \dots . (O_n'' + D_n'' + I_n'')$ and if $F_1 = F_2 = \dots . F_n$,

$$[(P' - F_1) - (O_1'' + D_1'' + I_1'')]U_a \frac{1 - (1+r)^{-n}}{r} \quad (4d)$$

would give the present-value sum by which obsoleteness is increased.

Obsolescence, when a per-unit reduction of price and cost comes from sale of the larger output of the new unit of equipment, may be measured in the following manner with the foregoing expressions and expression (1*b*):

$$\left.\begin{aligned}&\left[CU \frac{1 - (1+r)^{-n}}{r}\right] \\ &\quad + \left[(P' - F_1) - (O_1'' + D_1'' + I_1'')U_a \frac{1 - (1+r)^{-n}}{r}\right] \\ &\quad - \left[F_1 U \frac{1 - (1+r)^{-n}}{r}\right].\end{aligned}\right\} \quad (4e)$$

When the technological change is in terms either of cost reductions alone or of only price changes, obsolescence may be easily calculated by the simpler of the foregoing methods. But when a new machine has a larger output than the old one and when a combination of price and cost changes result, expression (4*e*) indicates the complications of expressing the measure. Thus, a general measure for determining obsolescence in these instances

may be based on the relative profitability of using the new and old equipment.

Let $P'_1, P'_2, \ldots, P'_n$ be the per-unit prices of the old-machine product in n periods of time when the new-machine product may be purchased. In addition, if $P''_1, P''_2, \ldots, P''_n$ are the per-unit prices of the new-machine product in n periods of time and $U'_1, U'_2, \ldots, U'_n$ and $U''_1, U''_2, \ldots, U''_n$ are the units of output in n periods of time (to allow in this more general case for a variation in output) with the old and new machines, respectively,

$$\left.\begin{aligned}&\frac{[P''_1 - (O''_1 + D''_1 + I''_1)]U''_1 - [P'_1 - (O'_1 + D'_1 + I'_1)]U'_1}{(1+r)} \\ &+ \frac{[P''_2 - (O''_2 + D''_2 + I''_2)]U''_2 - [P'_2 - (O'_2 + D'_2 + I'_2)]U'_2}{(1+r)^2} + \ldots. \\ &+ \frac{[P''_n - (O''_n + D''_n + I''_n)]U''_n - [P'_n - (O'_n + D'_n + I'_n)]U'_n}{(1+r)^n}\end{aligned}\right\} \quad (5a)$$

measures the amount of obsolescence in the old equipment. If

$$\begin{aligned}&[P''_1 - (O''_1 + D''_1 + I''_1)]U''_1 - [P'_1 - (O'_1 + D'_1 + I'_1)]U'_1 \\ &= [P''_2 - (O''_2 + D''_2 + I''_2)]U''_2 - [P'_2 - (O'_2 + D'_2 + I'_2)]U'_2 \\ &= \ldots. [P''_n - (O''_n + D''_n + I''_n)]U''_n - [P'_n - (O'_n + D'_n + I'_n)]U'_n,\end{aligned}$$

an assumed condition which is warranted only for the purpose of making a simple statement of the conditions presented in expression (5a), then

$$\left.\begin{aligned}&[P''_1 - (O''_1 + D''_1 + I''_1)]U''_1 \\ &\qquad - [P'_1 - (O'_1 + D'_1 + I'_1)]U'_1 \frac{1 - (1+r)^{-n}}{r}\end{aligned}\right\} \quad (5b)$$

measures the obsolescence of the existing equipment.

For further simplification of the foregoing expression let $N'_1, N'_2, \ldots, N'_n$ be the net-income sums for n periods from use of old equipment where

$$\begin{aligned}N'_1 &= [P'_1 - (O'_1 + D'_1 + I'_1)]U'_1, N'_2 \\ &= [P'_2 - (O'_2 + D'_2 + I'_2)]U'_2, \ldots.\end{aligned}$$

and

$$N'_n = [P'_n - (O'_n + D'_n + I'_n)]U'_n .$$

$N''_1, N''_2, \ldots, N''_n$ will be similarly measured net-income sums from use of the new equipment.

Obsolescence will be, therefore,

$$\frac{N''_1 - N'_1}{1+r} + \frac{N''_2 - N'_2}{(1+r)^2} + \ldots + \frac{N''_n - N'_n}{(1+r)^n} . \qquad (5c)$$

If $(N''_1 - N'_1) = (N''_2 - N'_2) = \ldots (N''_n - N'_n)$, we have

$$(N''_1 - N'_1)\frac{1 - (1+r)^{-n}}{r} . \qquad (5d)$$

Obsolescence is attributable also to a decline in the demand for a product. Where the decrease in demand is attributable chiefly to a technological improvement, possessors of existing equipment will not always be the ones to install the technical change giving rise to obsolescence. Sometimes the owner of a patent will make exclusive use of it. It seems, therefore, that measurement of the obsoleteness of the equipment of the displaced manufacturer may be most easily done in terms of net-profit or deficit changes. Doubtless the demand for the old product will fall. Obsolescence could be determined by the present-value sums of the price change where output and per-unit costs remain unchanged—expression (3*a*).[15] Or the present value of the predicted decline in net profits or increases in deficits for n periods—in so far as these changes are represented by a decrease in demand which is attributable to the new technique—would measure it. The capital goods will be completely obsolete (except for scrap value) when gross revenue no more than covers expenses exclusive of interest on, and depreciation and maintenance of, them.

Perhaps a firm or industry which has suffered a decrease in demand for its product would have neither partial nor complete

[15] As buyers become more cognizant of the desirability of the new product, the price and profits from production of the old product may continue to decline. When demand is gradually increased for a new product or a betterment of an old product, the old equipment will gradually become completely obsolete.

obsolescence of its equipment if its production facilities were more fully utilized. Furthermore, because of the character of the demand for the goods, it may not be possible to reduce the losses of these producers by decreasing the prices of their products. Today, for example, hand carpet-sweepers or kerosene and gasoline lamps continue to be sold. There may be instances, consequently, in which obsolescence of existing equipment may be determined with respect to "excess" or "unused" capacity.

Where $W_1', W_2', \ldots, W_n'$ is the output in n periods of time with the existing equipment, where $W_1'', W_2'', \ldots, W_n''$ is the output in n periods of time with a plant of smaller output capacity, and where the other terms correspond to those previously used,[16]

$$\left.\begin{aligned}&\frac{[(O_1' + D_1' + I_1')W_1'] - [(O_1'' + D_1'' + I_1'')W_1'']}{(1+r)} \\ &+ \frac{[(O_2' + D_2' + I_2')W_2'] - [(O_2'' + D_2'' + I_2'')W_2'']}{(1+r)^2} + \ldots. \\ &+ \frac{[(O_n' + D_n' + I_n')W_n'] - [(O_n'' + D_n'' + I_n'')W_n'']}{(1+r)^n}\end{aligned}\right\} \quad (6a)$$

will determine the amount of the obsolescence that has resulted, through a decrease in demand for a product, in a notable amount of "unused" plant capacity. If E' is equal to either $O_1' + D_1' + I_1'$), $(O_2' + D_2' + I_2'), \ldots$, or $(O_n' + D_n' + I_n')$, and E'' is equal to either $(O_1'' + D_1'' + I_1'')$, $(O_2'' + D_2'' + I_2''), \ldots$, or $(O_n'' + D_n'' + I_n'')$, i.e., if E' and E'' are unchanged for n periods, and if the periodic output is uniform through n periods for each of the plants,

$$(E'W_1' - E''W_1'')\,\frac{1 - (1+r)^{-n}}{r} \quad (6b)$$

measures the obsolescence sum.

The remainder of the paper deals with measurement of, and other considerations about, the time when a company will replace

[16] If the per-unit price of the product decreased when the demand for it declined, there is, of course, an additional amount of obsolescence. This addition may be determined by previously described methods.

its old equipment with an improvement. A departure from the previously defined and described economic value (expression [2*a*]) is necessary at this time. For the purpose of measuring obsolescence the economic value of existing equipment, upon which the $D'U$ and $I'U$ sums were based, was determined by finding the present value of the revenue in excess of the O' sums that, prior to any knowledge of the particular improvement, was thought to be forthcoming from use of the installed equipment. When replacement of the existing with improved equipment is being considered, however, the improvement is presumably in existence, and some of its cost-price characteristics are known. Furthermore, the present value sums above the future O' items that are thought to be retrievable from continued use of installed equipment may be less than the economic value of the equipment prior to appearance of the improvement. These anticipations of such retrievable sums respecting the economic value of the assets may be reduced, for example, because there may be many users of the technological changes.[17]

The term "remaining investment," in contrast to the above-defined "economic value," will be used to designate the present value of the revenue (exclusive of the expected scrap value) that is anticipated in excess of the O' sums from continued use of installed equipment *after* there is knowledge of the particular im-

[17] It should be noted that the combined output of new and old equipment may increase on the appearance of a technological change if there are many possible users of the improvement, because particular producers out of the many possible producers may foresee an opportunity to use profitably the improvement before the old equipment is scrapped. This increase in output may contribute, other things being the same, to a decline in the unit price of the products of both types of equipment. For the old equipment the profits are reduced or the deficits are increased. It follows, therefore, that the remaining investment in the existing equipment declines. An improvement may result, consequently, in a reduction of the amount of an investment which may be retrieved. (Replacement of the existing equipment will take place when the prospective returns from use of the improvement more than equal this retrievable sum.) When, however, there is but one possible user of the improvement and when the same person or firm possesses the existing equipment, there will be no possibility of such decrease in the remaining investment.

provement. The following expression measures the remaining investment:

$$\frac{(d_1' + i_1')U}{(1+r)} + \frac{(d_2' + i_2')U}{(1+r)^2} + \ldots . + \frac{(d_n' + i_n')U}{(1+r)^n}. \qquad (7a)$$

When $(d_1' + i_1') = (d_2' + i_2') = \ldots . (d_n' + i_n')$, the summation of the series is

$$(d' + i')U \frac{1 - (1+r)^{-n}}{r}. \qquad (7b)$$

Statements about the time of replacement of old equipment will be presented first in terms of the assumptions upon which these expressions for measuring obsolescence are based. Later a few of the other matters which management will consider before making such replacements will be noted. Generally a firm will replace its old equipment with an improvement only when it is expected to be a profitable change. If displacement of capital goods is being contemplated, it must be decided whether the remaining investment of installed equipment may be amortized out of the anticipated reduction in costs or increase in profits from utilization of the improvement. In addition to coverage of these sums, the prospective return on the investment in the new capital goods must be large enough to induce the owner of the old equipment to use the technical improvement.[18] A firm will not regularly undertake replacements, therefore, that would simply reduce deficits, although financial circumstances may warrant occasional exceptions.[19] Whether old equipment will be thrown aside before its "physical" usefulness has been exhausted, will depend particularly upon the size of $N_1'', N_2'', \ldots . , N_n''$.

Before the preceding means of measuring obsolescence may be

[18] Discussion of this prospective rate of return in relation to utilization of the improvement would go beyond the limits of this paper.

[19] Perhaps a reduction of the deficits by use of a technological change will permit payment of interest expense and some of the fixed obligations, and, thereby, receivership will be temporarily averted.

used for expressing the time of replacement of existing equipment, they must be adapted so that they include the terms for measuring the remaining investment rather than the terms for determining the economic value. The d' and i' sums must be substituted in these formulas for the D' and I' sums. In the following expressions on the time of replacement the subscript k represents this adjustment. Moreover, unless the expected cost of removing the existing equipment and installing the new equipment is included in the D'' items, it must be added to the second members of the following expressions.[20]

If the technological change is strictly a cost-reducing one and if no factors other than the cost reductions are considered in determining the time of replacement, the new means of production will be used when[21]

$$C_k U \frac{1-(1+r)^{-n}}{r} > (d_1' + i_1')U \frac{n-(1+r)^{-n}}{r}. \qquad (8a)$$

When the improvement results solely in a "betterment" of the quality of the product and where the consequent price increase for the new product or price decrease for the old product is the only matter affecting the decision, the replacement will occur when

$$(P'' - P')U \frac{1-(1+r)^{-n}}{r} > (d' + i')U \frac{1-(1+r)^{-n}}{r}. \qquad (8b)$$

For instances of technological changes which are a mixture of price, cost, and even output changes, expression (6*d*) may be used to state that the replacement would occur when

$$(N_1'' - N_{1k}') \frac{1-(1+r)^{-n}}{r} > (d_1' + i_1')U \frac{1-(1+r)^{-n}}{r}. \qquad (8c)$$

[20] Though I have not done so, it may be reasoned, of course, that obsolescence of existing equipment is equal to the sum obtained by my means of measurement less the cost of removal of the old equipment and installation of the new equipment.

[21] In a previous article ("Economic Influences of Obsolescence," *op. cit.*, p. 283) the author erred when he said that statement (8*a*), for example, was always equivalent to the conclusion that use of the old equipment will be continued "unless the variable cost are not covered by the revenue obtained."

In each of the foregoing measures of the time of installation of an improvement and the measures for other cases which may be presented in a like manner, it has been concluded that the new means of production will displace the old whenever the savings from use of the improvement are more than sufficient to amortize the remaining investment[22] in the old equipment. Or, to express this conclusion in slightly different terms, replacement will occur if the increase in profits obtained with use of the new equipment will more than amortize the remaining investment in the existing equipment. At the other limit, if the old equipment is contributing nothing (and never will) to cover its depreciation and interest expense and only a part of its operating expense,[23] no consideration need be given the old equipment in making the decision on replacement.

These conclusions about the time of replacement of existing equipment ought to be qualified by other factors which may have a significant influence in the actual practice of making such replacements. Neither an exhaustive list nor an intensive treatment of any of these additional matters, however, will be presented here. First, we may note that a corporation executive, with his obligations to show profits for the stockholders and an adequate financial condition for the bondholders, may hesitate to depart from conventional policies. He may fear untried improvements because the risk attaching to their use may necessitate, in the event of a mistake, a trying explanation to the board of directors. Perhaps the executive will be more disposed to chance the use of an improvement after his more intrepid colleagues have revealed the cost and revenue characteristics of the innovation.

If a technological change would result in dismissal of part of the firm's employees, the executive may hesitate at times to effect the improvement. Perhaps it is feared that "labor trouble" will

[22] See n. 17 above for a statement about the effect of the number of possible users of an improvement on the retrieval of an investment.

[23] This means that $O'_1 > (O''_1 + D''_1 + I''_1)$ when $O'_1 = O'_2 = \ldots . O'_n$, $O''_1 = O''_2 = \ldots . O''_n$, $D''_1 = D''_2 = \ldots . D''_n$, and $I''_1 = I''_2 = \ldots . I''_n$.

follow the installation of a labor-economizing machine. Or a labor union may be able to thwart a firm's use of some or all technological changes.

Management of a regulated company, particularly when there is effective regulation, may put off use of improved means of production under some rules or conditions of regulation. Unless they are allowed to charge off the remaining investment in old equipment to operating expenses of future years, there would usually be no gain, and there might be a loss from use of the improvement. (Detailed consideration of the relationships of the policies of management and regulators involves some qualifications of this conclusion.)[24] Even though this disposition of the remaining investment were permitted, management of the regulated company would have to foresee an increase in its net return before the change would be made.

Furthermore, either an executive or owner of capital goods may be wary of an increase in the inflexibility of his costs. Many technological changes are capital-using in nature, and thus use of them may cause an increase in a firm's "fixed" costs. When the foregoing measures of obsolescence and time of replacement of old equipment were being presented, no attention was given to the trade-cycle process. But executives and owners of assets will not always fail to realize that during the slump and depression solvency may be more easily retained and other troubles more conveniently negotiated if their firms' costs are not made more rigid. For a time, therefore, "high-cost" and obsolete equipment may be used.

The uncertainty of the future, especially the cyclical process, may have still other deterrent effects on use of improvements. The ever present probability of some future decrease in the demand for products processed with any type of equipment may affect an executive's decision to make a replacement. Displacements of existing with new equipment will be notably few, for example, during the contraction and early depression stages of a

[24] "Obsolescence of Public Utility Property," *loc. cit.*

cycle. Moreover, prospect of a secular decrease in demand for a product will have a similar effect. There are times, too, when the executive will prefer the comfort and protection of liquidity—idle bank balances or easily liquidated securities—to an expenditure on a profit-promising technological change. Moreover, the uniformity of the interest rate, which was assumed in the presentation of the formulas, may not exist. If funds must be borrowed to purchase the improvement, the conditions under which these are available may deter replacements. When more suitable borrowing terms are anticipated, installation of improvements may be delayed.

SENIORITY RIGHTS BEFORE THE COURTS

DAN H. MATER[1]

INTRODUCTION

WHERE seniority is completely incorporated into a personnel system, it is regarded by both the employer and the employees as one of the most important working conditions in the collective agreement.[2] Among union officials and also among those employees who are thoroughly union conscious there are many who consider the seniority principle scarcely, if at all, less important than the wages and hours clauses of the collective agreement.[3] These opinions are of long standing. As much as 25 or 30 per cent of the space in railroad train- and engine-service collective agreements, or schedules as they are called, is occupied by statements involving various phases of the seniority rule. In other industries and in less complicated branches of the railroad service the percentage of space occupied by seniority stipulations is somewhat less.

Within the past few years the importance of seniority has been further demonstrated by the increased attention it has received from unions. In the railroad industry, where seniority first received full recognition, the depression has necessitated many adjustments which, in turn, have affected the seniority arrangements. On the other hand, in industries where collective bargaining has not been the custom—and hence seniority has not been recognized—both A.F. of L. and C.I.O. labor factions of late have placed the seniority principle among the first concessions to be obtained from employers.[4]

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[2] Harry Henig, *The Brotherhood of Railway Clerks*, pp. 8 and 47.

[3] Editorial, *Railway Clerk*, January, 1929, p. 7.

[4] Raymond J. Walsh, *C.I.O. Industrial Unionism in Action* (New York: Norton, 1937), p. 230.

Only since the depression have seniority cases come before the courts in any number.[5] The seniority right is intangible in that ordinarily it is difficult to calculate the extent of the harm caused by a disturbance of any employee's seniority; for relief to be fully adequate, specific performance of personal service would many times be required. The discussion which follows attempts to explain how the value of an employee's seniority is affected by any deviation from the seniority conditions that existed at the time his seniority began. It will also be the writer's purpose to evaluate the adequacy of the court protection available to an employee who has suffered a change in his seniority contract. Or, to put the issue another way, in view of the extent to which the law insures the safety of the employee's seniority and in view of the dependence of the employee's seniority contract upon the *status quo* of the original contract provisions, is it wise for the employee to make a contract for the duration of the employment?[6]

An employee's seniority is the length of time he has worked at his present craft skill for his present employer within the agreed geographical area. Any seniority previously gained under another employer, or under the present employer in a former employment, terminated automatically when that relationship ceased. Also, any seniority which an employee may have gained under the present employer in the present employment relationship in a given craft will vanish if the employee transfers to another craft. For example, a fireman who becomes a brakeman does so at the sacrifice of his fireman's seniority. And, finally, any seniority earned in one seniority district is lost if the employee holding that seniority shifts to another district, even though all other factors remain constant. A seniority district may be a shop, an office, a plant, a section of track, or the whole railroad or firm, depending simply upon the agreement. This is a general description. Many exceptions and modifications can be found. The principle may be summarized in negative terms as follows: senior-

[5] *Rentschler* v. *Mo. Pac. R. Co.*, 126 Neb. 493, 253 N.W. 694 (1934).

[6] This article is part of a larger study which is in progress on "The Railroad Seniority System."

ity cannot be transferred between districts, crafts, employers, or previous employments with the same employer.

Since the seniority of every employee is measured as just described, all the employees in a given seniority area and craft together form a chronological sequence of dates of employment. The employees in any other craft in the same area, or the same craft in another area, constitute another and entirely separate seniority relationship. One's relative position in the sequence measures his rights to the jobs in that seniority area. It is unnecessary to explain fully the sometimes highly elaborate rules of seniority application. Employees, through their unions, insist on this method of measuring job rights because they believe that the employer's opportunities to practice favoritism are eliminated, and they justify seniority as a method of job allocation by the following argument: The longer an employee works for a given employer the more valuable he becomes to him, and therefore the more compensation the employee should receive in such form as his choice of jobs within a given grade, promotions to higher grades, and security against layoffs.

The application or manner in which an employee exercises his seniority can be summarized as follows: The senior employee, or the employee with the most seniority, can have the job he wants (bearing in mind the craft and geographical limitations just described) whenever it becomes vacant or whenever his own job is abolished by the company. The man with the next highest seniority has the same privilege except in so far as he is limited by employee No. 1, and so on down to and including the right of preference in examinations for promotion and for part-time jobs, even when those jobs have months of layoff between days of work.

PRELIMINARY DISTRIBUTIONS OF THE SENIORITY CASES

Table 1 shows that there have appeared in the courts to date fifty-seven cases involving seniority, the first being in 1909. It is also evident that in late years there has been an increase in the number of such cases. The largest number to appear in any one year was eight, in 1934. One cause of the increased frequency has been the depression. Although the table shows the peak in 1934,

if consideration is given to the average lag of two years or so between the beginning of the dispute and the final court decision, it appears that the peak in number of cases really occurred during the depths of the depression. The manner in which the depression was responsible will become more evident later when the cases and the complaints are analyzed.

Of the fifty-seven seniority cases which have come before the courts, two occurred in the printing trades, one on an electric railway, one with a bus company, and the remainder on steam rail-

TABLE 1*

FREQUENCY OF CASES BEFORE THE COURTS IN WHICH SENIORITY WAS THE PRINCIPAL ISSUE

Year	No. Decisions	Year	No. Decisions
1909	1	1928	1
1916	1	1931	3
1917	1	1932	3
1919	1	1933	3
1920	1	1934	8
1921	1	1935	7
1922	2	1936	7
1923	2	1937	6
1925	1	1938	6
1927	1	1939	1

* C. L. Christenson, "Seniority Rights under Labor Union Working Conditions," *Temple Law Quarterly*, XI, No. 3 (April, 1937), 355-81 (identical table up to 1935).

roads. That such a preponderance of cases has come from the railroad agreements no doubt is due to the fact that an overwhelming proportion of existing agreements, especially those of a detailed nature, are railroad agreements. Also, as shown before, the peak of the cases occurred in the depression years—a period of drastic retrenchment, particularly for the railroads. One would expect, therefore, that such conditions throughout an industry would necessitate many revisions in the agreements and in the working conditions which they serve largely to codify.

A reading of the cases disclosed that thirty-one of them were caused by a change in the seniority rules or in the territorial extent of the seniority district; five were instances in which a previously promoted or transferred employee sought an interpreta-

tion of the pertinent seniority clause that would allow him to return to his old occupation; seven were cases in which the plaintiff alleged that the employer laid him off when there were younger employees working whom he was entitled to displace; and fourteen had miscellaneous or unknown causes. As the description of the groups indicates and as a reading of the cases established, with few exceptions the cases in the first three groups and a few in the miscellaneous group were directly brought about by the employer's altering operations in conformity to the changed needs for transportation or in order to benefit by technological improvements. During the past few years these changes were hastened by the depression.

There remains the task of determining the source of the decision that ultimately caused the alleged injury to fall upon Employee A rather than Employee B. The formal positions of the union, the employee, and the employer in the seniority cases were as follows: All the suits have been originated by a single employee or a small group of employees. True, there have been three cases in which a union lodge sued the central body of its order; but even these may be considered as still within the limits of the generalization. Of the fifty-seven cases, the employer was named the sole defendant in twenty-one, the union the sole defendant in sixteen, and the employer and the union as joint defendants in seventeen. Stated in another way, in forty cases the employer was named a defendant either jointly or solely, whereas the union was named in thirty-three cases as a joint or sole defendant. A railroad adjustment board was named as a joint defendant in three instances.

As not infrequently is the case in lawsuits, the formal naming does not disclose the true source of the threat to the plaintiff. Quite often the injured employee asks the court to enjoin the employer from putting into effect a new roster or an altered agreement which, after more or less arduous bargaining, the union had procured in the interests of the majority of its membership. Usually the employer seeks to administer agreements to harmonize with the union's interpretation for the simple reason that a dissatisfied union is a more formidable opponent than is a dissatisfied individual. A further cause is found in the fact that

quite often a carrier finds it necessary to act before the union is able to arrive at an interpretation. If the union ruling, when forthcoming, be the reverse, the employee who profited by the employer's decision may seek to prevent the railroad from acting upon the union's decision. On the other hand, the employee who stands in a better position as a result of the union's version of the clause in question may sue the railroad for injury suffered during the period between the employer's and the union's decisions.

It was seldom difficult to identify the interested parties. In many of the decisions the court itself named them. In other cases the facts as reviewed by the courts made the identity evident. In a few instances the true position of the union and the employer was obscure. Two points that had to be watched in determining the interested parties were (1) sometimes the employer pleaded disinterestedness seemingly in the hope that it would strengthen his claim that he should not be held liable for damages and (2) when the employer was named a defendant it was necessary to determine whether his interest extended to the principle behind the case. Of course, he was concerned with the outcome of the suit, regardless of the principle, if a decision for the plaintiff would pave the way for a subsequent damage suit.

Of the forty cases in which the employer was named a defendant he was interested in the principle in only fourteen. In three cases in which the employer was not named a defendant it was evident that he was opposed nevertheless to the plaintiff. On the other hand, the union was opposed to the plaintiff-employee in thirteen cases in which it was not named a defendant. In none of the thirty-two cases in which it was named a defendant was the union not truly opposed to the plaintiff. The resultant positions of the union and the employer, therefore, were that the employer was opposed in principle to the plaintiff-employee in fifteen cases,[7] whereas the union was opposed in principle to the plaintiff-employee in forty-eight cases. The employer greatly

[7] Christenson, *op. cit.*, p. 359. Christenson pointed out this condition as follows: "It is certain that in at least half of the 42 principal seniority cases [this was in 1936] the employer was indifferent as to the outcome." Fully half of these fifteen cases originated in court before 1934—the date when the government's railroad labor-disputes machinery was brought to its present state of efficiency.

aided the plaintiff in at least one instance, whereas the union gave full aid in two suits and perhaps some aid in six others.

The reader may have wondered why, if the seniority rule is as important as it has been declared to be, more cases involving it have not been before the courts. There are a number of reasons. The very fact that the plaintiff almost invariably has been denied discourages the bringing of seniority cases to the courts. The individual employee has no expert source of information except the union and the employer. If the individual thinks he is injured by the union ruling, the union is closed as an unbiased source and the railroad is neither interested nor obligated to advise the employee.[8] And since the agreements employ a language that seems ambiguous to those outside, lawyers in general practice are not often expert in their advice. It is quite possible, in view of the complexity of the agreements, that many employees are not fully sensible either of their rights under the agreement or of the extent to which other of their rights are infringed upon by the agreement. In view of this array of circumstances, an employee might hesitate to court the disfavor of either the union or the employer. The type of relief requested is also a clue to the nature of the injury as well as to the reason for the denial of the plaintiff's request.

Only eight cases have thus far been decided favorably for the plaintiff: declaratory judgment, once;[9] injunction solely, three times;[10] damages solely, three times;[11] and injunction and damages, once.[12] In some half-dozen additional cases it was evident that the plaintiff was right as far as the principle was concerned. For example, in two cases the court stated that a breach had occurred and that if action were brought properly damages would

[8] *C.R.I & P.* v. *Sawyer*, 176 Okla. 446, 56 P. (2d) 416 (1936).

[9] *Piercy* v. *L. & N. R. Co.*, 198 Ky. 477, 248 S.W. 1042 (1923).

[10] *Stephenson* v. *N.O. & N.E.R. Co.*, 180 Miss. 147, 177 So. 509 (1937); *Gregg* v. *Starks*, 181 Ky. 834, 224 S.W. 459 (1920); *Griffin* v. *Chicago Union Terminal Co.*, 13 F. Sup. 722 (D.C. Ill., 1936).

[11] *McGee* v. *St. Joseph Belt Ry. Co.*, 92 Mo. 208, 93 S.W. (2d) 1111 (1936); *Rentschler* v. *Mo. Pac. Ry. Co.*, 126 Neb. 493, 253 N.W. 694; *George* v. *C.R.I. & P. Ry. Co.*, 183 Minn. 610, 235 N.W. 673 (1931).

[12] *Robinson* v. *Dahm*, 159 N.Y.S. 1053, 94 Misc. Rep. 729 (1916).

probably be granted.[13] But even this adjustment does not make a very high ratio of grants to denials.

HOW CHANGES IN SENIORITY RULES AND ROSTERS AFFECT VALUE OF AN EMPLOYEE'S SENIORITY

In order to discern the reasons for the plaintiffs' lack of success it is not only necessary to inquire into the facts and terms of the contracts involved but it is necessary also to inquire into the attitude of the courts toward agreements as contracts, particularly where adequate relief from injury under such contracts may require nothing short of specific performance of personal service—a type of involuntary servitude. And also, before very much can be understood of the nature of the seniority contract, something must be known of the practical day-to-day application of seniority.

Under either the seniority rule or the merit system the employer picks the jobs he wishes to dispense with, but under the seniority system he cannot select the employees he wishes to lay off. Instead, each of the employees holding the jobs that have been abolished simply looks around and takes the job of any man junior to him—bearing in mind the craft and district limitations explained earlier. Sometimes it is not as simple as this—in fact, it rarely is—but to elaborate the picture would not be helpful. Under both systems there occurs a great deal of shifting when the force is enlarged or contracted. The effect to note at the moment is the fact that the individuals who would be selected under the two systems certainly would not be the same ones.

At first thought it might seem that it would make no difference what kind of a seniority district exists when the carrier is making changes in the operating divisions, but it makes a very great difference to the employees. If the area from which ten jobs are to be removed is one seniority district, then eventually the ten junior employees in that craft and district will be unemployed. But if that area is composed of two districts, to make it simple, the ten men who would be out of the employment would not be

[13] *Hamilton* v. *Rouse*, 178 App. Div. 81, 165 N.Y.S. 173 (1917); *McCoy* v. *St. Joseph Belt Ry. Co.*, 229 Mo. App. 506, 77 S.W. (2d) 175 (1934).

the same ten. Every method of combining the rosters would cause the burden to fall upon a different ten individuals.

But regardless of whether or not any reduction of jobs results from a combination of rosters, each of the employees, with few exceptions, will find himself a different distance from the top on the new roster than was the case on the old roster. To some this will appear as a windfall, to others it will amount to a cheapening of their seniority. It may appear that an employee holding fifth position, for example, on a seniority roster of one hundred employees would be in just as advantageous position if, after his roster were combined with another, he found himself in tenth position among two hundred employees. But rarely indeed do all the employees occupy the same relative position following a combining or dovetailing of rosters. In fact, it would be impossible on a large roster. First position, for example, may be held on one roster by a man with forty years' seniority, whereas on the other roster first position may be held by a man with fifty years' seniority. It might easily happen that there would be several on the second roster with more than forty years' seniority.

As will be seen in a moment, dovetailing of rosters is not the only way of dealing with situations created by the carrier's changing the extent of the operating divisions. Some of the carriers' arrangements that necessitate changes in the operating divisions, which in turn require actual combining of rosters, or other treatment which in principle amounts to the same thing, are joint-track agreements, abandonment of branches or tracks or maintenance facilities, the extension of the aforementioned, or the sale of the road or a portion of it. These circumstances may result in an operating division's being abandoned entirely, added to another division divided among two or more divisions, or combined with parts of one or more to form an additional division. The variety of possible arrangements is large, and the difficulty of making the necessary compensatory seniority roster adjustments in the seniority districts affected is extremely great. An actual example may aid the reader to obtain a clearer picture of the difficulties involved.

The case of *Gordon* v. *Hawkins*[14] is unusual in that it was occasioned by an extension of track rather than an abandonment. However, the problems created are substantially similar. Two main lines of a railroad formed the apex of an acute angle. The sides of this angle composed two separate operating divisions and, in this case, two seniority districts for train and engine crews. Both divisions were under the jurisdiction of the same superintendent. Some new line was built, which amounted roughly to completing the triangle. There were enough furloughed train- and engine-crew employees to make it unnecessary to hire any. Now the problem was: Should the new line constitute a new seniority district, be added on to one or the other of the two existing districts, be split between them, or be combined with them to make one large district? Perhaps the view may be taken that in such circumstances the new jobs should be divided among the two rosters so that everyone would benefit by getting more part-time work, a full-time job instead of a part-time one, or a better full-time job. If so, by what method should it be accomplished: a fifty-fifty basis, in proportion to the number of employees on the two divisions, in proportion to the mileage of the two divisions, in proportion to some other unit of measurement of the relative importance of the two divisions, or in such a manner that the senior idle employee on one division would be of the same seniority as the senior idle employee on the other division? This list of possibilities is by no means exhaustive. Only a group of railroad men with their ingenuity under the full spur of such a situation could note all the possible alternatives.

In the foregoing illustration only the train- and engine-crew employees had operating divisions as seniority districts, whereas most of the other employees, such as telegraphers, had as their seniority districts the superintendent's division.[15] Therefore, since the change for the telegraphers involved only one district, no difficulty was experienced. Over half the cases have been caused by some change in the extent of the operating divisions which

[14] 66 S.W. (2d) 432 (Tex. Civ. App., 1935).

[15] This is the typical arrangement.

necessitated compensatory changes in the respective seniority districts.

The foregoing type of change in the seniority conditions was in the extent of the seniority district. Another type of change is in the rules themselves. Naturally there are many ways in which the seniority rules can be changed, but one example will suffice. In *Hartley* v. *Bro. of Ry. & SS. Clerks*[16] the railroad company during the depression received numerous complaints because there were married women in its employ while there were numerous men as heads of families without employment. The railroad was willing to dismiss the married women for reasons of its own; all clerks who held less seniority than these individuals stood to advance with their removal; and union officials were amenable to the suggestion since, among other reasons, only a small loss of membership would be entailed. Therefore, all married women, unless extenuating circumstances existed, were relieved of their positions—seniority rights accumulated under a prior set of rules notwithstanding.

All the changes in the seniority structure, whether in the rules or in the extent of the district, are the result of the union's bargaining with the employer. With the exception of a few isolated cases where a union official used his power for his personal interest,[17] or with the aim of discriminating against one or more nonunion employees,[18] these changes have been made in good faith for the benefit of the majority of the membership.[19] Personal ani-

[16] 283 Mich. 201, 277 N.W. 885 (1938). *Brisbin* v. *Bro. of Ry. & SS. Clerks*, 134 Neb. 517, 279 N.W. 277 (1938), is closely similar.

[17] *Stephenson* v. *N.O. & N.E. R. Co.*, 180 Miss. 147, 177 S. 509 (1937); *McGee* v. *St. Joseph Belt Ry. Co.*, 92 Mo. 208, 93 S.W. (2d) 1111 (1936); *McCoy* v. *St. Joseph Belt Ry. Co.*, 229 Mo. App. 506, 77 S.W. (2d) 175 (1934).

[18] *Piercy* v. *L. & N. Ry. Co.*, 198 Ky. 477, 248 S.W. 1042 (1923); *Gregg* v. *Starks*, 81 Ky. 834, 224 S.W. 459 (1920); *Ledford* v. *C.M. & St.P.R. Co.*, 298 Ill. App. 298, 18 N.E. (2d) 568 (unpublished, 1939).

[19] *Franklin et al.* v. *Penn-Reading Seashore Lines et al.*, 122 N.J. 205, 193 A. 712 (1937). ". . . . I was impressed, during the hearing of this cause, with the zeal of the men to protect their rights, and also with the honesty of purpose, good faith, and desire to do justice, displayed by the representatives of the brotherhoods, as well as the international officers and board of directors to whom appeals were made, and with the fidelity with which their duties were performed."

mosity of the employer toward the plaintiff[20] or favoritism toward an employee[21] seems to have been the chief cause in four cases.

The seniority principle differs from any other condition of work in a way which makes its inclusion in a contract especially significant. It is quite possible for an increase in the wage rate to cause the company to reduce the force, with the result that not even all the union members will benefit by the union's effort; but most of the union's efforts may be said to benefit the overwhelming majority of the union members. The effect on nonmembers or outsiders desiring employment is not here under consideration. Now, under the seniority system a change in the rules or in the extent of the district—which is equivalent to a change in the rules—has an effect resembling that which would be experienced by an apprentice who, after he had almost completed the four years of his apprenticeship period, was told that in behalf of the majority of his brotherhood the period had been lengthened to five years and he would therefore have to serve an additional year as an apprentice.

THE PROTECTION OF THE SENIORITY RIGHT AFFORDED BY THE COURTS

Since seniority exists by virtue of the efforts of the union,[22] the willingness of the courts to protect an employee's seniority will depend partly upon whether they consider the collective agreement as a contract. On this point the courts are not in complete agreement.[23] It would seem that those who do not so

[20] *Rentschler* v. *Mo. Pac. Ry. Co.*, 126 Neb. 493, 253 N.W. 694 (1934); *Beatty* v. *C.B. & Q. Ry. Co.*, 49 Wyo. 22, 52 P. (2d) 404 (1935).

[21] *Griffin* v. *Chicago Union Station Co.*, 13 F. Sup. 722 (D.C. Ill., 1936); *Lane* v. *Union Terminal Co.*, 12 F. Sup. 204 (Tex., 1935).

[22] Only in one case did a court in any way indicate that it felt that seniority was a custom prior to the collective agreements. While an employee holds seniority with his employer and not the union, he holds it in accordance with the conditions contained in the collective agreement. In *Piercy* v. *L. & N. R. Co.*, 198 Ky. 477, 248 S.W. 1042 (1923), the union made a ruling, to which the carrier acquiesced. The court ruled that since the plaintiff had held the job long previous to the coming of the union, and since the effect rested on one man only, the change could not be upheld.

[23] *Rentschler* v. *Mo. Pac. Ry. Co.*, 126 Neb. 493, 253 N.W. 694 (1934). The court in this decision quotes with approval *Yazoo & M.V. R. Co.* v. *Webb*. 64 F. (2d) 902

hold would therefore consider the collective agreement as a mere offer of terms by the employer, which terms he has bound himself to the union to offer;[24] on this last point some courts would say, "which terms he has bound himself to the union's officers to offer."[25] In other words, some courts dispute the ability of an unincorporated institution[26] to make contracts. Those who hold the collective agreement to be a mere offer of terms by the employer further disagree as to what constitutes acceptance by the employee. One of the reasons why they do not see alike on the foregoing questions is that they disagree as to whether the union is an agent or a principal.

It is the opinion of the author that in the bargaining relationship between the employer and the union the latter acts not as a principal[27] but as an agent with power to bind. It is not illogical to consider the union as a principal in its dealing with the employees, but it is the employer-employee relationship that is the important side of this contractual triangle. Since one who joins a union binds himself to abide by the brotherhood constitution and bylaws[28] and by the terms of the collective agreement, the collective agreement is ratified automatically with its consummation. Since this precludes the need of later ratification, the collec-

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(a nonseniority case), as follows: A contract between the employer and its employees in itself "can rarely be a subject of court action because it is incomplete. It established no concrete contract between the employer and the employee. . . . ." This position seems also to be taken in *Mosshamer* v. *Wabash Ry. Co.*, 221 Mich. 407, 191 N.W. 210 (1922), and *Boucher* v. *Godfrey*, 178 Atl. 655 (Conn., 1935). It seems quite certain, however, that this is not the view of many courts.

[24] There were nine decisions in which it was more or less definitely stated that the collective agreement binds the employer merely to offer the agreed terms of employment to the employees. These cases will be reviewed later in the article.

[25] Christenson, *op. cit.*, p. 362.

[26] Justice Paine, in *Rentschler* v. *Mo. Pac. Ry. Co.*, 126 Neb. 493, 253 N.W. 694 (1934), remarks that government reports show that in 1929 only 14 of the 148 large unions were incorporated.

[27] In only one case did a court state that the union is a principal and not an agent (*Donovan* v. *Travers*, 285 Mass. 167, 188 N.E. 705 [1934]).

[28] The principle is well stated in *Robinson* v. *Dahm*, 153 N.Y.S. 1053 (1916), as follows: "Such a set of laws . . . . creates obligations that can be enforced among the members and between the members and the order."

tive agreement cannot be a mere offer of terms by the employer to the employee.

The next question is: Can either an agent or a principal conclude a binding contract between two other principals (the employee and the employer)? Now, a principal can make a contract between two other principals, provided it is accepted or ratified. Such a ratification is nothing more than a post-authorization of agency. But the union has already bound its members to accept the collective agreement; therefore, the union is an agent with power to bind.[29]

Under either the agency theory or the principal theory, nonunion employees can protect themselves through the principle of third-party beneficiary rights.[30] What has actually come to be the practicable situation is that an employee who is dissatisfied with a union ruling is limited to protesting, quitting the employ, or changing the agreement by voting into power more satisfactory bargainers. In fact, this situation very much resembles that which exists between the individual and his government—and in this country, at any rate, it would still be vehemently contended that the government is the agent of the individual.

Of the fifty-seven cases studied there were thirty-eight in which the court in so many words stated, or indirectly indicated,

[29] Christenson, *op. cit.*, p. 270: "One finds the conclusion emerging that in these seniority cases there is a clear tendency to treat the union as an agent, bargaining as the representative of its members."

[30] In *Y. & M.V.R. Co.* v. *Sideboard*, 161 Miss. 4, 133 S. 669 (a nonseniority case), the court clearly states the attitude of the courts on this question. Also the statement of the present acceptance aptly describes the situation as the author finds it in the seniority cases: ". . . . The time has at last arrived when labor union contracts are no longer construed with hesitancy and strictness but are accorded the same liberality which is given to other agreements, so that while a few years ago courts were holding that an individual member of a labor union could not maintain an action for breach of an agreement, as in the Hudson and Burnetta cases, the holdings now are that these agreements are primarily for the individual benefit of the members of the organization, and that rights secured by these contracts are individual rights which may be enforced directly by the individual." The court cites a long list of supporting decisions.

In no case was an interested third party refused relief on the ground that the contract did not purport to speak for him. The only question that arose was whether or not he had ratified the agreement. This point will be dealt with again.

that membership in the union or mere employeeship constitutes ratification of the collective agreement.[31] In those cases in which the court did not specifically state its views on this subject, the court was so categorized if one or more of the following statements appeared in the decision:

1. The union was within its powers to act for the majority.
2. Court review will not be granted until all union methods of adjudicating disputes between itself and its members, or among its members, have been exhausted.
3. This court will not enjoin a union unless its methods for settling the dispute overly delay justice.
4. A union must apply the general law of contracts in its constitution.
5. A union's changes in the constitution, bylaws, and collective agreement must be for the general good.
6. The wisdom of the union constitution will not be questioned by the court.
7. Plaintiff did not protest the decision agreed upon by the employer and the union within the time limit for protests.

This figure becomes more significant in view of the fact that there were fifteen cases which were not of a nature to necessitate comment on this point, particularly among the cases which were thrown out of court for such reasons as extremely poor pleading and/or lack of essential parties.

Nearly all the most interesting cases fall into one or more of the following categories:

1. Cases in which a breach was recognized but relief refused—six cases
2. Cases in which a breach was recognized and relief granted—eight cases
3. Cases in which the collective agreement was not considered to become the individual's work-contract automatically with the consummation of this agreement—nine cases
4. Cases which were not tried on their merits—three cases

Briefs of the most fruitful of these cases follow:

[31] In five of these cases the court stated or intimated that mere employeeship is sufficient ratification. But, owing to the paucity of cases in which the plaintiff was a nonunion employee, this figure undoubtedly understates the number of courts who hold this opinion.

One question that no court specifically commented on is: Must an employee who is not a member of the union, but who thinks he is injured by the union's ruling, go through all the adjudicatory machinery provided by the union before a court will grant that a breach exists? Presumably not. In this respect a nonunion employee perhaps has an advantage over the employee who is a union member.

In *McCoy* v. *St. Joseph Belt Ry. Co.*[32] two rosters were dovetailed following a merging of two railroads. There was evidence of collusion between one of the railroad officials and the brotherhood man who was called from headquarters to aid the locals in combining the rosters. While such collusion would be an undue exercise of authority and therefore would need ratification in order to become binding, the court did not decide on this ground. Rather it held that continuing to work did not constitute ratification. It is not clear what the decision would have been, had there been no evidence of collusion or what effect obtained from the fact that the plaintiff had immediately and continuously dissented. The plaintiff was refused relief, however, on the ground that the computation of injury did not appear sufficiently accurate.

In *McGee* v. *St. Joseph Belt Ry. Co.*[33] the same court granted damages. The entire case was identical with the case above in every respect except that the plaintiff was able to convince the court that he would never have lost a single day's work had he not suffered interference with his seniority.

In *George* v. *C.R.I. & P. Ry. Co.*[34] the plaintiff was discharged. The union representative interceded in his behalf and obtained his reinstatement, but in order to do so he promised the employer that George would not claim back pay. George convinced the court that he never authorized the union representative to act in his behalf and that he was entitled to damages for time lost. The court ruled that George's acceptance of the reinstatement was no bar to recovery of wages lost. While it is probably true that the representative exceeded his constitutional authority and lacked specific authority, it still is difficult to see from the court's syllabus of the case how the court could allow the plaintiff to ratify "in part" the reinstatement contract.

In *Rentschler* v. *Mo. Pac. Ry. Co.*[35] a "senior" employee whose job had been abolished was not allowed to displace a "younger" man. The company claimed that he was not competent for the

[32] 229 Mo. App. 506, 77 S.W. (2d) 175 (1934).

[33] 92 Mo. 208, 93 S.W. (2d) 1111 (1936).

[34] 183 Minn. 610, 235 N.W. 673 (1931). [35] 26 Neb. 493, 253 N.W. 694 (1934).

type of work involved. The jury found otherwise, however. In the decision the court said that the collective agreement becomes binding when adopted into and made a part of the individual contract of each employee. It is surprising, however, that the court then quotes with approval from a nonseniority case, *Y. & M. V.* v. *Webb*,[36] as follows: ". . . . A contract between the employer and its employees can rarely be a subject of court action because it is incomplete. It establishes no concrete contract." A similar view seems to have been taken in *Mosshamer* v. *Wabash R. Co.*[37]

In *West* v. *B. & O.R. Co.*[38] a union man was laid off. Nine months later, while inquiring as to when he might be recalled, he found his name differently placed on the roster. The court stated that the union was not a suable entity, that the plaintiff had not exhausted the union remedies for settling the dispute, and that there was no evidence that the plaintiff had ratified the agreement. It is not surprising that the court found for the defendant, but it is difficult to reconcile with the foregoing comments the further statement " . . . . a contract between a union and an employer if not ratified by the members, the members therefore cannot recover for breach of contract between the carrier and the brotherhood."

In *Moore* v. *Y. & M.V.R. Co.*[39] the court said: ". . . . The effect of the promulgation of this . . . . roster was to offer the appellant . . . . a new contract. . . . ." By not protesting within the thirty-day clause, as required by the constitution, the plaintiffs were deemed to have accepted and the breach of their former contracts was therefore waived. In other words, acceptance was considered automatic unless protested. This thirty-day protest period is an argument against regarding the new roster as a true offer.

In *Brisbin* v. *Bro. of Ry. & SS. Clerks* (earlier reviewed)[40] the

[36] 64 F. (2d) 902.

[37] 221 Mich. 407, 191 N.W. 210 (1922).

[38] 103 W.Va. 417, 137 S.E. 654 (1927).

[39] 176 Miss. 65, 166 S. 395 (1936).

[40] 134 Neb. 517, 279 N.W. 277 (1938).

court said that the collective agreement becomes binding when adopted into the individual contracts, but then it continues as follows: ". . . . There must be some agency vested with authority to represent and bind all the employees . . . . whether or not they are members. . . . ."

In *Stephenson* v. *N.O. & N.E.R. Co.*[41] the dispatchers' agreement read: "Seniority shall be limited to one superintendent's jurisdiction. . . . . When for any reason two or more dispatchers' offices are consolidated, seniority of such offices shall be pooled. . . . . If consolidation results in force reduction, if qualified, oldest men shall have prior rights to positions remaining." The foregoing provision failed to fit the situation exactly, because, when the railroad put the two divisions under one superintendent, it did not operate them as one, but rather it continued to operate them separately under the jurisdiction of one superintendent.

Stange had sufficient seniority to obtain a choice job on the other division, provided the above-mentioned situation were construed as coming under the provision quoted. He was also division representative for the dispatchers, and, as such, he tried to get the railroad to dovetail the seniority rosters. Upon the refusal of the management he took the case to the Board of Mediation under the National Railway Labor Act of 1926. No agreement was reached. In 1934 the act was amended, and Stange repeated his former steps, getting jurisdiction by saying that the dispute was between the dispatchers and the railroad. In spite of the fact that the railroad pled disinterestedness, the Railroad Adjustment Board, through a referee, ruled that the railroad should dovetail the rosters. Thereupon the other dispatchers brought court action. In the proceedings the lower court held that the proper, necessary, and indispensable parties were not present. The higher court ruled that the lower court *did* have such parties before it, and that it should have found for the plaintiff; the higher court then permanently enjoined the railroad from putting into effect the order to dovetail the seniority rosters, saying that the National Railroad Adjustment Board was without jurisdic-

[41] 180 Miss. 147, 177 S. 509 (1937).

tion in the matter because the dispute was not between the employees and the employer but rather among the employees only.[42]

The court took care to say that the granting of an injunction in this case did not force the employer to retain certain employees in its service, but only made the employer recognize their seniority rights during such time as they might remain in its service. The court further declared that seniority rights constitute "property" within the Fifth Amendment of the Constitution of the United States, that the rights and privileges contracted for in labor agreements are primarily for the individual benefit of union members, and that rights secured by such agreements are the members' individual rights and may be directly enforced by an individual member.

In *Griffin* v. *Chicago Union Station Co.*[43] the plaintiff, a switchtender, was transferred to other work where he remained for ten years. During that time his name did not appear on his former roster. At the end of that time the company abolished his job, but put his name back on the switchtenders' roster in the same position it would have occupied had he never left that work. Other switchtenders complained, first to the carrier and later to the National Railroad Adjustment Board. The Board ordered the railroad to remove the plaintiff's name from the roster. The judge of the federal court enjoined the defendant carrier from putting into effect the ruling of the Board, saying that since seniority is property within the meaning of the Fifth Amendment of the Constitution of the United States, the Board's failure to notify the plaintiff of the hearing concerning the case was contrary to the Fifth Amendment. This opinion was upheld in *Nord* v. *Griffin.*[44]

A similar dispute brought about the case of *Lane* v. *Union*

[42] This opinion was also stated in *Malone* v. *Gardner*, 62 F. (2d) 15 (C.C.A. 4th, W.Va. 1932). Curiously, the opposite view was held in *Norfolk & Western R. Co.* v. *Harris*, 260 Ky. 132, 84 S.W. (2d) 69 (Ky. 1935), and in *Bell* v. *Western R. of Ala.*, 228 Ala. 328, 153 So. 434 (1934).

[43] 13 F. Sup. 722 (D.C. Ill., 1936).

[44] 86 F. (2d) 481 (C.C.A. Ill., 1936). Writ of certiorari denied in 1937.

Terminal Co.[45] and the contra suit of *Estes* v. *Union Terminal Co.*[46] Both contests were appealed and remanded. Again the stumbling block was the failure of the Board to give notice to a party who claimed he had been neither represented at, nor notified of, the Board's hearings. The carrier prevented a final court disposition of the controversy in these suits by obtaining a settlement out of court.

In neither the Griffin nor the Union Terminal dispute was the seniority question fully considered. What the decisions actually implied was that a nonunion employee is not represented before the Board by either the union or the employer unless he specifically designates one of them as his representative, and therefore he is an interested, involved, and separate party with the right under the federal statute[47] to receive notification of, and be present at, the Board's hearings concerning his property right in seniority. Or, in other words, they have in reality held that the work-contract of a nonunion employee is not the collective agreement unless he so specifies.

In these disputes, as well as in one or two similar cases, it has been held that seniority is a property right within the meaning of the Fifth Amendment. This certainly is not the opinion of the majority of the courts. Even though it were a property right, the point is not well taken in the Griffin and Estes cases. Since a change in the amount of seniority of one person would alter the effectiveness of the seniority of all "junior" employees, the property of all the employees would be interdependent. Therefore it would be necessary that the employer offer the same opportunities to all for the accumulation of seniority. That plan could only be the collective agreement—unless these courts do not consider it possible for a collective agreement to become binding upon an employer. Every schedule provides that any error on a seniority roster must be protested within a reasonable

[45] 12 F. Sup. 204 (Tex., 1935).

[46] 89 F. (2d) 768 (C.C.A. Tex., 1937). A strong dissenting opinion was rendered in this decision.

[47] *Railway Labor Act*, 45 U.S.C.A.

time. But for ten long years the plaintiff in the Griffin case did not protest the complete absence of his name from the switch-tenders' roster. Therefore his seniority had ceased to exist. And furthermore, the carrier could not give the plaintiff any seniority, for to do so would not only be contrary to the provisions for acquiring this right but also an infringement of the similar rights of all "junior" employees.

CONCLUSION

The decisions and comments of the courts reveal a pronounced inclination on their part to view the union as the binding agent of its members to make their work-contract, settle their disputes with the carrier either on the property of the carrier or before the Board, and adjudicate disputes between itself and its members or among its members. The small number of cases in which relief has been granted to the plaintiff-employee is evidence of this attitude. Nonmembers are considered almost as completely bound, in that it is generally conceded that the collective agreement binds the employer to treat member and nonmember employees alike.

It is evident that damages can rarely be an adequate recompense for a seniority injury, because such an injury is of a continuing nature and damages will be granted only for past injury. Even to compute damages for injury already inflicted on seniority, is, more frequently than not, extremely difficult. Yet the courts require an accurate computation before they will grant such relief.[48] Quite often nothing short of return of the man's job is adequate relief. Yet the courts will not grant specific performance when the effect is to force the employer to rehire an individual honestly undesired.[49] Some courts simply state that seniority is not a right that a court of equity will enforce.[50] Others

[48] *McCoy* v. *St. Joseph Belt Ry. Co.*, 229 Mo. App. 506, 77 S.W. (2d) 175 (1934).

[49] *Beatty* v. *C.B. & Q.R. Co.*, 49 Wyo. 22, 52 P. (2d) 404 (1935); *L. & N.R. Co.* v. *Bryant*, 263 Ky. 578, 92 S.W. (2d) 749 (1936).

[50] *Mosshamer* v. *Wabash R. Co.*, 221 Mich. 407, 191 N.W. 210 (1922); *Shaup* v. *B. of L.E.*, 223 Ala. 202, 135 S. 329 (1931); *Burger* v. *McCarthy*, 84 W.Va. 697, 100

have looked farther and on occasion have granted an injunction when the effect was merely to prevent the employer from putting into effect a decision of the union or of the National Railroad Adjustment Board.[51]

Nearly all the seniority cases have resulted from changes in the railroads' operating conditions and the efforts of the union to make compensatory changes for the benefit of the majority of its members. The frequency of such changes has increased, in spite of the fact that the number of employees on railroads has decreased from approximately two millions in 1920 to about one million at the present time. One effect of this decrease in the number of employees, together with the generally less favorable employment opportunities, has been the increase in the amount of seniority necessary to attain a preferred job. Therefore, at the present time more years of a man's life are involved in seniority injuries than was formerly the case. Because of the heavy investment in his seniority district which the employee makes by accepting subaverage wages for the first several years in the promise of greater security and higher-than-average income in later years, few contracts can be more important to an individual than one involving seniority.

The trend toward collectivism in both bargaining and dispute adjudication undoubtedly brings to the majority of the individual employees greater income and security. The minority may suffer unduly, however, if the system is pushed to the extreme. Labor tyranny would be just as oppressive as employer tyranny. Perhaps it is impossible for either a political or an industrial de-

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S.E. 492 (1919); *Chambers* v. *Davis*, 128 Miss. 613, 91 S. 346 (1922); *Gore* v. *Penn. R. Co.*, 144 Misc. 639, 259 N.Y.S. 410 aff'd 236 A.D. 881, 260 N.Y.S. 941 (1932); *Brand* v. *Penn. R. Co.*, 22 F. Sup. 569 (D.C.E.D. Penn., 1938); *Donovan* v. *Travers*, 285 Mass. 167, 188 N.E. 705 (1934).

[51] *Stephenson* v. *N.O. & N.E.R. Co.*, 180 Miss. 147, 177 S. 509 (1937); *Lane* v. *Union Terminal Co.*, 12 F. Sup. 204 (D.C. Tex., 1935), remanded when appealed; *Griffin* v. *Chicago Union Station Co.*, 13 F. Sup. 722 (D.C. Ill., 1936), upheld in *Nord* v. *Griffin*, 86 F. (2d) 481 (C.C.A. Ill., 1936); *Chambers* v. *Davis* (dissenting opinion), 128 Miss. 613, 91 S. 346 (1922). *Gregg* v. *Starks*, 81 Ky. 834, 224 S.W. 459 (1920).

mocracy to function so that no individuals suffer, but the peculiar nature of seniority makes any injury thereof doubly severe upon the individual. This is particularly true in view of the present inadequacy of legal remedies for an injury of this kind.

While seniority does not have all the attributes of property, for it cannot be transferred from one individual to another, it is a contract that is vastly more valuable than many things which are considered property. It is conceivable that the poignant results of the harsher aspects of seniority as it is now applied have influenced some courts to feel that the concept of property needs to be extended in order to render more adequate relief. If the railroad unions will relax the narrowness of the seniority rules and districts or agree that the procedure of the Board may be changed to allow individual cases to come before it without union representation—a procedure which some interpret the act as permitting—they probably will benefit thereby in the long run. Also, in view of the cumulative value of seniority, the argument for compensating an individual for the loss of his job through a reduction of forces is much stronger than it is in a nonseniority industry. The principle is equally applicable for instances of lesser seniority injury. This compensation should be made by the person to whom the change constitutes a benefit—whether he be the employer or an employee. It must be realized that with an increase of power over the individual there should go an increase of responsibility toward him.

LIFE INSURANCE AND THE FINANCIAL FRONTIER—*Continued*

MELCHIOR PALYI*

IX. CAPITAL PROVISION FOR LIFE INSURANCE

SAVINGS habits may, however, affect the availability of underwriter's capital for insurance ventures. How is ownership or operating capital provided for insurance firms? Fraternals have "none," i.e., they cover all expenses and build all reserves out of current revenues; a surplus, if any, accrues automatically as a benefit to the members. This has contributed to their original success at a time of dearth of capital, with over 10 per cent interest rate in the Middle West. Mutuals also operate nominally without capital and are owned by the policyholders; dividends are disbursed in the form of premium reductions. In reality capitalistic control of the mutuals is in the hands of the management, since, as the Armstrong Investigation has brought out, the policyholders usually show little interest and are not in a position to interfere. Their growth is financed out of their own returns. The moderate capital necessary to sustain operations (minimum requirement at present in Illinois, $250,000) may be acquired either from the sale of (subsequently repurchased) stock or out of current revenues. The largest midwestern company, the Northwestern, of Milwaukee, apparently never had any "capital."

As to insurance firms which have the corporate form, their shares are not quoted any more on the national exchanges, because the public has only a limited interest in them. They lack the speculative appeal and are rarely marketed even over the counter; nor are they popular in this country, contrary to Europe, with major groups of investors. It is instructive that the New York Stock Exchange listed thirty-three insurance shares in 1835 and nine still in 1856;[53] their disappearance since indicates both a

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[53] Myers, *op. cit.*, pp. 431 ff.

more speculative character of the stock exchange and less speculative interest for insurance shares. They represent, as a rule, as much of a typically "pure" investment as any security issued by corporations. Of course, appreciation of the equity may and should occur; but it is a matter of long-run growth, not even of a cyclical nature, and the investment closely approximates the character of a permanent participation. Wide fluctuations in dividends are unusual; to some extent enforced by public supervision and control, stability is a basic principle of insurance finance.[54] It is characteristic for the stability of this type of business that, out of fifty-two fire insurance companies in the United States, only two operated with a loss in 1931 and only three in 1932,[55] or that total withdrawals through policy loans, etc., in the troubled year 1930 (before a "moratorium" came into force) amounted to only 0.6 billion dollars, as against 6.5 billion dollars of premium income of all life companies in the same year.

Clearly, insurance stocks do not provide a field for the turn-in-the-market operator, not even to the limited extent true for bank shares. Banks are far more exposed to cyclical influences than is insurance, and their stock is more likely to be used for "speculative" purposes. Their earning and appreciation chances are more sensitive to a wide variety of factors. As to insurance, investment for long-run safety and for stable income, rather than for quick gains, based on personal acquaintance with the firm rather than on evidences of the market's appraisal, is essential. The market for stocks of individual insurance firms is actually limited. Like small banks, insurance is overwhelmingly a matter of local enterprising. As such, it carries two features which militate against popular participation: lack of speculative appeal (to be discussed further) and lack of ready market. The number of investors who have the "patience" for enterprises which imply "direct" investment of a long-run character is limited—a fact of substantial import.

Only about 5 per cent of the life insurance business is handled in the proprietary form. Capital provision from the outside should seem, for the vast majority, a question too small to be of

[54] Cf. Appen., Table 10.

[55] *Annalist*, August 3, 1938, p. 174.

relevance for the choice of location. In reality, however, the problem is actually decisive for the beginning and often also for the expansion of each company. Insurance companies have grown, as many banks did, by acquiring competitors; this technique is a very significant factor in the concentration process. On such occasions the ability to pay the purchase price or to put up such new cash (especially in the case when a defaulting firm is taken over), as prescribed by the supervising authorities, brings up the question of greater or lesser interest in insurance on the part of local capitalists. Chicago had occasion repeatedly to realize the reluctance of local capital to participate in such ventures. A similar problem arises at the outset of each large-scale insurance proposition. Chicago companies typically started from very small beginnings, with consequent difficulties of surviving. "Shoe string operations . . . . trying to swing a $5,000,000 company purchased with $500,000, or so, of capital" have been responsible, time and again, for the inability of new companies to survive.[56] The difficulty of attracting capital was responsible for the fact that most Chicago companies started on an assessment basis and with such limited funds as to inhibit growth for a long time, if not to cripple it.

But the capital actually needed never amounted to more than a few million dollars; nor would much more be needed if a new venture of very substantial size were to be launched. Such amounts are normally available in Chicago for any reasonable (and some unreasonable) kind of enterprising. Obviously, the reluctance of local capital to become interested in insurance organizations cannot indicate shortage of funds; it may have to do with the nature of the investment in question, its earnings, and liquidity.

X. LONG-RUN VERSUS SHORT-RUN PROFITS

The liquidity—or, rather, illiquidity—aspect of insurance underwriting has been discussed above; obviously, it offers no incentive to the typical capitalist, who is interested in the possibility of reasonably quick marketability of his investment. Par-

[56] A. M. Best, "The Purchase, Consolidation and Refinancing of Insurance Companies," *Best's Insurance News* (Life Ed.), October, 1932, pp. 360 f., 386 f.

ticipation in the insurance business must substitute high earnings for liquidity so as to attract capital. Over a long period, life insurance earnings proved to be high, indeed. The companies used to have a broad leeway in the choice of their assets; and comparative freedom from liquidity pressure even in depressions permitted the reaping of long-run appreciations, in addition to the high-interest returns yielded by long-term investments. In the decade from 1850 to 1859 yearly earnings of seven leading and already well-established eastern life insurance companies up to 6.8 per cent on their total earning assets[57] are, of course, not surprising for the era of the California gold rush, during which Chicago real estate values rose four- and fivefold (until the crisis of 1857, when they fell back to the level at the outset), the city witnessed its first railroad boom, and enormous profits were reaped locally through the growth of house-building, rapid expansion of wholesaling, and the beginnings of manufacturing.[58] At that time the prevailing "market" rate of interest in Chicago was well over 10 per cent,[59] probably offering the banker a higher income than the investment of his money in the life insurance business could have brought, with a faster turnover and with less administrative overhead. But in the decades from 1860 to 1904, while midwestern interest rates gradually declined, the average earnings of the thirty largest life insurance firms still maintained their level. They rarely deviated upward or downward from 5 to $6\frac{1}{2}$ per cent on their total assets, with 4.2 as the lowest return (1903) and 9.3 per cent as the highest average of a single year (1863); none of the companies had as much as one year of losses.[60] Virtually the same situation has prevailed, as far as old-established companies are concerned, since the World War. Between 1916 and 1931 the average annual *net earnings on total assets* of twenty-

[57] According to Zartman, *op. cit.*, p. 68.

[58] H. Hoyt, *One Hundred Years of Land Values in Chicago* (Chicago, 1933), pp. 53 ff.

[59] Cf. Don M. Dailey, "A Review of Money Rates in Chicago," *Journal of Business of the University of Chicago*, X (October, 1937), 322–45.

[60] According to the extensive tabulation by L. W. Zartman, *The Investments of Life Insurance Companies* (New York, 1906), pp. 74–76. It is not indicated, however, whether the figures refer to gross or to net profits.

six leading companies were 4.94 per cent; they rose from 4.69 per cent in 1916 to 5.08 in 1928, and amounted to 4.80 per cent even in the critical year 1931.[61] These figures do not account for profits disbursed to executives in the form of salaries, which in some cases were not negligible. All this not only indicates that life insurance, so far as old-established firms are concerned, belongs to the profitable ways of professional life but especially that its profits are better protected against the vagaries of the business cycle than in almost any other type of business. Western and Southern Life (Cincinnati) will serve as a concrete and conspicuous example. It started with $100,000 paid-in capital in 1888; by 1936, the capital was 10 million dollars, the surplus 12¼ million dollars—all of it out of profits. In addition, the record of dividends showed that, since 1920, the worst year was 1931, when "only" a 12 per cent cash dividend could be paid; in a good year like 1921, 20 per cent cash and 66⅔ per cent stock dividends were disbursed.[62] (By contrast, net earnings of Chicago downtown banks in ratio to total proprietary capital varied between plus 18.5 and minus 44 per cent during the period 1911–34.)

Why, then, should insurance not inspire either the investors or the speculatively minded section of Chicago's financial community, and why should it not attract far more capital in the Middle West than has been, and still is, the case? How could such substantial profits over such a length of time fail to excite the imagination, especially in view of the fact that the organization of life insurance permits (or has permitted) the one-man or similar rule over large enterprises so attractive to the aggressive type of entrepreneur? The answer has already been given in part. In the first place, the capital invested in insurance shares lacks the liquidation possibilities so essential from the point of view of both the regular investor and the turn-in-the-market operator. The lack of a "market" for insurance shares is a consequence of, and at the same time a reason for, the "unspeculative" character of the business. This implies, second, that the insurance entrepreneur has to be prepared to "take care" of the business for a long time; he

[61] Compiled by Halaas, *op. cit.*, p. 147.

[62] *Best's Life Insurance Reports for 1937–38* (New York, 1937), p. 1283.

cannot afford either to "unload" it quickly or to let it run, in the face of all supervision, on the one hand, and competition, on the other, without continuous and often strenuous efforts extending over many years. Third, all chances for profit may be eliminated, for a while or longer, by measures of the supervisory authorities which used to be more "interested" in this business than in almost any other—with the possible exception of savings banks—and have often interfered. True, since 1935, banks are possibly more closely supervised than insurance companies; but insurance regulation in Illinois has grown particularly strict, and the problem on hand is one of the past rather than of the present.

Fourth, and most important, is the fact that the profits of insurance business are virtually nil in the first years of operation. This fact alone is sufficient to explain why the typical speculator is reluctant to enter the field except under the "intoxication" of a particularly "bullish" atmosphere, such as in the late 1920's. In fire insurance it is regarded as fairly normal for a new company to lose half of its capital in the first three years. In life insurance no net earnings are, as a rule, available before five to eight years—provided that the company is competently managed and that it develops properly. These are generally accepted inductions based on wide experience in the field and supported by reasoning as well as by the available data. The fact of decreasing cost with rising size has been pointed out already;[63] the young (and small) company has to carry a substantial overhead which burdens it disproportionately compared to the large and old-established unit. It has to provide, from the outset, for impressive advertisement and for a "respectable" home office with proper furnishing and equipment, such as expensive handbooks and actuarial materials, comparable to the stock-in-trade of the merchant. But its turnover is much slower, and it also has to acquire highly qualified and none-too-cheap technical personnel, including actuarial staff and investment and sales management.[64] But the most onerous single item is probably the direct sales outlay. A new company, or one embarking on expansion, has to acquire the service of ex-

[63] See Appen., Tables 4 and 10.

[64] Their lack has often been the cause of failure of new companies; cf. *Best's Life Insurance News*, February, 1914, p. 110.

perienced salesmen; this means such supercommissions on the first year's premium revenue as to attract their services, in addition to which the salesman often has to be "subsidized." A compilation covering the eight-year period previous to 1912 showed that an average of 50 per cent of new premiums were used by old companies to obtain new business, while in Illinois (a state with a large number of new companies at that time) the percentages often varied between 100 and 127.[65] The new companies, therefore, usually represent the problem child of the insurance system; open failures may be rare, but the more or less painful going-out-of-business within the first ten years is a typical recurrence.[66] In the eight years 1905–12, 184 new companies were organized, of which 38 "retired" within the same period; the stockholders paid in some 75 million dollars, of which 20 millions were dissipated by the end of 1912; their total dividends of the period amounted to barely 1 million. Even more impressive is the record of the 1920's, during which about 450 new life insurance companies were organized. Most of them disappeared soon; they suffered, "in addition to the normal handicaps incident to building up a new insurance company, ... from heavy promotion expenses," with the inevitable result of "a heavy mortality among them."[67]

Of course, the cost of acquiring new business may be cut; but so, too, will be the growth of the company. And it is at least questionable whether a company with less than 20 million dollars of policies in force—the building-up takes time even under favorable conditions and competent management with courageous risk taking—is able to make commensurate net earnings. Is it likely that such business would attract the highly spirited entrepreneur of the boom town, with its equal or greater profit chances involving far less time and "waiting"? The prospect of solid earnings in a remote future can scarcely distract him from concentrating on what appears, at least in times of upturn, immediate gains.

[65] *Best's Life Insurance Reports for 1912* (New York, 1913), pp. 93 f.

[66] For the following see *Best's Insurance News* (Life Ed.), June and August, 1911, September, 1911, December, 1912, and especially September, 1913.

[67] *Ibid.*, October, 1932, pp. 360 f., 386 f. Small wonder that, e.g., New York restricts the commissions to agents; but the safety thus bought may be at the expense of the competitive structure.

XI. THE "ECONOMIC MAN" IN THE INSURANCE BUSINESS

Obviously, a community's interest, or lack of interest, in enterprises of the one or the other type will largely depend on the prevailing "financial spirit," meaning the difference between two typical investment attitudes. The one is represented at the extreme end by the inclination to turn a substantial part of one's wealth into some form of "safe" investment, such as typified by savings passbooks, insurance policies (approaching the endowment type rather than the term type), high-grade and comparatively low yield bonds, etc.; the other by the propensity for indulging in speculative ventures, by stock-market-mindedness and by participations in an overenthusiastic fashion in quick-profit earning investments. If the emphasis in one or the other direction is sufficiently pronounced to influence a whole community in its "marginal" investment policies, it becomes decisive for the prevailing type of long-term business commitments, which in turn largely determine the character of local development. But, of course, these fundamental differences in policies are to be understood in relative terms: emphasis in one community on "pure" savings is merely greater or lesser compared with the "speculative" attitude of another community; and it is a matter of subjective attitude in the choice between alternatives rather than of any objective form.[68]

The oversimplified picture of the *homo economicus* traditionally presented by economic theories does not permit any other but a single pattern of "rational" behavior to prevail at all times and in all places. In reality there are at least two fundamentally different ways in which the economic rationale may be understood and applied; the distinction is virtually ignored in the prevailing theoretical approach. Similarly, the vast literature on the history of modern capitalism also seems to ignore the issue. The American "frontier," e.g., is invariably presented as having a more or less homogeneous and ubiquitous psychology. The expansion of industrial capitalism here, as elsewhere, is almost never analyzed

[68] The difference between "investment" and "speculation" cannot be objectively defined; cf. F. I. Shaffner, *The Problem of Investment* (New York, 1936), pp. 12 ff.; it is none the less real in the subjective sense.

in terms of types of attitudes prevailing at one time among the acting capitalists and entrepreneurs.[69] It is not surprising, then, that no analysis of the financial mechanism of the American city in terms of prevailing standards of business and investment policy is available. Nor can more than a first tentative discussion be attempted presently; the following considerations are intended merely to focus the attention on an approach which may be productive of further suggestions.

Almost every American credit panic since 1837 was characterized by preceding overinvestment and consequent breakdown in the Middle West; and Chicago had a full share in practically every case.[70] The interesting point is that within the Middle West—as in other parts of the country—the cyclical role and fate of individual cities are typically different. Besides Chicago, cities like Cleveland, Detroit, and Pittsburgh, and to some extent also St. Louis and Minneapolis, were repeatedly and in a conspicuous fashion centers of the financial earthquake. Milwaukee, Cincinnati, Columbus, and Omaha, on the other hand, were affected, as a rule, only by the peripheric radiations of the crisis; the same applies to some extent also for Des Moines. In the first group very substantial bank failures, if not a breakdown of the entire local banking structure, was a signal phenomenon in the last panic; similar occurrences have marked their history on several previous occasions—if not on each of them. No major bank catastrophe occurred for a long time in the cities of the second category; such troubles as have arisen were due often to affiliations with outside institutions rather than to local ventures. (This was apparently Milwaukee's case in the last crisis.) The distinc-

[69] W. Sombart's well-known distinction (in *Der Bourgeois*) between the "old-time" businessman and the newtimer misses the essential point. Donald McConnell's essay on *Economic Virtues in the United States* (quoted above) stops short before arriving at the distinction to which our text refers.

[70] No analysis of the history of crises in America exists which would take account of the role of individual centers; such well-known presentations as those by Sprague, Noyes, Dewey, or W. C. Mitchell have little reference to this aspect of the phenomenon. The same holds for the histories of Chicago banking, such as by Cyrill James. The unpublished dissertation of A. Carstens, "Chicago and New York National Banks during Major Crisis Periods: 1873–1929" (University of Chicago, 1932) offers a few (incomplete) statistical comparisons.

tion between the two groups of cities holds also with regard to the behavior of the typical nonfailing banks. Excessive investment in real estate and in long-term industrial ventures used to be overwhelmingly the cause of trouble in the one group; their comparative absence or limitation in the other group was often just as conspicuous. Mortgage banking is another example; in Chicago, it broke down in the last crisis, in spite of its great development, while, for example, in Cincinnati the large number of small building societies weathered the storm with almost uniform stability. In short, speculative activity has been far more pronounced in the one category, of which Chicago is a most prominent representative, than in the other.

To all appearances, the one type of center attracts, almost as a matter of tradition, the businessman and financier of a more speculative appetite and with the more pronounced get-rich-quick instinct, for whom the long-run process of capital accumulation, as represented by the business of savings institutions, has little appeal. These centers of speculative investment are naturally of the more rapidly growing type; they represent the industrial frontier of the country. "Rapid" and "slow" are, of course, again relative terms; but in the last fifty years the difference in the impetus of industrial development of Chicago, Detroit, Cleveland, and Pittsburgh, compared with Boston and Philadelphia, or with the average "Middletown," is fairly obvious. It is most pronounced in the contrast between the industrial boom town of recent origin and a *rentier* center of old standing. But the distinction is not necessarily a matter of prevailing production or occupation; Milwaukee has, per capita, not much less industrial capacity than Chicago. It is essentially a matter of financial psychology—of "habits" and "spirit."

In boom centers, where a large amount of money has been made in a short time and in a comparatively easy fashion, financial managements may become inclined, more than elsewhere, to reach out for yield rather than for safety, for quick return rather than for the conservation of the principle. Tradition and background of such communities tend to make the men holding those positions "bigger and better" minded and anxious to improve their own

and their firms' standing by the promotion of more and larger developments. Once the tradition developed, later generations of managements may remain under the intoxicating influence of the expansion spirit, which achieves the dignity of tradition; or they may revert to it. It is not merely a matter of passion in profit-seeking; the pressure of public opinion might be just as important. The boom town's allegiance to and respect for the businessman is less based on long records of gradual and dependable growth than on sensational success with immediately tangible results. Power-mindedness was conspicuous in the leading representatives of the army of speculators and adventurous entrepreneurs who have added so much color and thrill to the economic history of Chicago, whose "ability" to attract this type of businessman has been conspicuous for generations.

Insurance, on the other hand, is generally regarded as a classical example of the slow-growing type of enterprise. It certainly does not call for the type of business manager whose qualities come to full effect in the speculative field; it calls less for quickness of mind and alertness of action and more for the virtue of systematic long-run planning and for the ability to create "confidence." Even the locally available force of first-class salesmanship, so important for the success of the individual firm, is likely to find the outlet for its energies in insurance only if it is not distracted toward more conspicuous chances of immediate success. If the assumption of Chicago's speculative-mindedness is correct, or so far as it goes, it should help to explain its lack of enthusiasm for insurance ventures.

XII. TWO TYPES OF FINANCIAL CENTERS

The tentative assumption that the local and regional discrepancies in life insurance development have to do with the differences in the pattern of financial habitus cannot be supported by quantitative evidence. Statistics by cities are not available for most of the important aspects of such a comparison, and those available are of doubtful validity. Clearing figures, e.g., are useless, owing to incompleteness as well as numerous duplications involved; there are also interlocal differences due to the larger or

smaller number of banks which are clearing-house members. Bank debits may give a more complete picture, including the checks canceled within the banks and Reserve banks but excluding transactions on bankers' balances. However, turnover or velocity data of any kind, even if complete, cannot disclose the origin or nature of the figures. A housing boom in Chicago, e.g., may influence the velocity of bank deposits in Milwaukee, if the factories of the latter carry part of the orders emanating from the former. Both may show, therefore, the same cyclical fluctuations, while the motivating forces may be entirely different. Similar objections could be raised against the use of figures for business failures—if they were compiled by cities for a longer period.[71]

It is further disappointing to find that the urban history either of bank failures or of the waves of real estate activity in the United States has not been worked up in a comparative fashion; studies along such lines are available only for a few individual cities. Local studies of bank failures since 1921 are principally devoted to the problems and troubles of the country banker or to a few large cities which happened to be particularly "interesting" (like New York, Chicago, Detroit, and Cleveland) as the most outspoken speculative centers. As to cycles in real estate values and in building activity, the cities which have been individually subjected to analysis again usually belong to the category of "boom towns," such as Chicago, Detroit, and San Diego.[72] Generally speaking, the comparative point of view is conspicuous for its

[71] *Dun's Review* compiled, for a limited period, monthly data on the volume of credit involved in business failures by cities, which are, however, not very revealing. An instructive case is that of Detroit, where the number of failures has fluctuated in percentage terms far more strongly than did the corresponding figures for the United States as a whole; cf. G. W. Woodworth, *The Detroit Money Market* (Ann Arbor, 1932), p. 206.

[72] Cf. Hoyt, *op. cit.*, the best American study of its kind; Woodworth, *op. cit.*; J. G. Clark, "The Real Estate Cycle in San Diego, California, 1900–1932," *Journal of the American Institute of Real Estate Appraisers*, April, 1933, pp. 207 ff.; and R. Wenzlick, "The Problem of Analyzing Local Real Estate Cycles," *Journal of the American Statistical Association*, 1933, pp. 201 ff. The last-mentioned study deals with St. Louis only.

absence, and even most of the material which it would have to utilize needs to be brought out of archives and other sources.

Nevertheless, inquiries about the financial policies and business approach of numerous businessmen in different cities of the Middle West and about local experiences in booms and crises during this generation's lifetime (or a little longer) may permit some tentative generalizing until a thoroughgoing study will have been made.[73] The assumption is that two types of financial centers exist in this country. In the one, liquid funds of the investor tend to flow largely into "safe" investment; institutions which specialize in administering "liquid thrift" are likely to find a fertile terrain. This may be called the *savings-center* type. In the second, direct investment in business or in securities and in a quickly shiftable fashion (for the sake of ready disposition along commercial or speculative lines) prevails; this type is the *speculative investment center*. Needless to say, the distinction is not an "absolute" one; but the lines of demarcation are, in actual practice, often less fluid than one would expect. New York is the outstanding example of the lack of clear demarcation. But, on the whole, insurance headquarters tend definitely toward the savings centers. Of course, not every savings center attracts insurance headquarters *ipso facto;* nor would the fact of exceptional developments or border-line cases (the classification of which may be difficult) disprove the point. Such an exception of major importance is presented by San Francisco—second largest in savings deposits but far lower in the insurance rank. This is, however, easily explained. Age and good-will acquired in the course of aging are important for the sales' success of insurance. In the 1890's, when the process of concentration in insurance started on a vast scale, California was financially still in her infancy. Her

[73] The information underlying the conclusions of the text have been derived—in addition to literary sources and to newspaper files—from a large number of personal interviews (extending over a period of four years) of the author with well-posted and experienced commercial and investment bankers, insurance and real estate operators, lawyers, merchants, manufacturers, public-utility operators, economists, and newspapermen in the Middle West, most of whom did not wish to be quoted.

rapid growth in liquid resources and financial enterprising practically dates from 1900 and has been well under way since.

The most important exception to the assumed distinction between financial structures, the one that throws the darkest clouds of doubt on its validity, is offered by New York. The most active national and international focus of "speculation" is also the largest savings-bank and life insurance center of the country and of the world. But this has to be understood as a situation *sui generis*. As the country's financial capital, New York—in contrast to "provincial" places of all shades—is not merely one city among others. It is the central money market of the entire country, in addition to being a credit market of its own. As such, New York naturally represents all financial tendencies and cross-currents of any importance. In every major financial center, such as London, Paris, or Berlin, similar situations prevail. No classification applies, therefore, to such centers, each of which gives a more or less complete cross-section of all financial activities of its respective nation in all significant aspects.

Disregarding New York, the determining factor which influences capital and promotional ability to engage in the insurance business in one American city, rather than in another, appears to be a matter, to at least a substantial degree, of financial "conservatism," or of its opposite. Conservatism is likely to be more evident in older communities (New England) than in new ones, and stronger in agricultural centers or in cities with close connection to the more conservative-minded land-owning class. Milwaukee or Des Moines versus Chicago and Kansas City versus St. Louis may be mentioned as examples of this latter point.

The slowly rising or stationary town is much more likely to be receptive to a conservative business, such as insurance, than the rapidly growing city, which, in itself, has attracted the more lively spirits. An essential factor is the underlying business psychology. It is quite evident in America that the individual businessman, on the whole, has had the choice between different types of promotional activity; but neither this fact nor the local differences in the prevailing trend or "fashion" of development is purely an American phenomenon. In pre-war Germany, for in-

stance, Frankfort and Hamburg used to represent the patrician tradition of solid finance and conservative banking, as against the boom spirit more outspoken in districts that were in the process of rapid industrialization, such as the Rhineland and Westphalia. In nineteenth-century England the Scotch banks generally played the role of guardians of financial strength and stability, while London, Lancashire, and the Midlands were, time and time again, the scenes of speculative excesses and banking trouble. In France, even at present, practically the entire trade in stocks is concentrated in Paris and a few industrial cities especially of the North, whereas most of the "province" prefers to indulge only in bonds of supreme (?) safety.

Such a geographic dispersion of capitalistic instincts is even more natural in a country of the size of the United States. Also, the comparative independence of the individual states and the large amount of autonomy which their political subdivisions enjoy, contribute to a localized development in economic activities. More important is the effect of more or less "accidental" circumstances arising out of conditions—material and personal—which, once established, tend to become "traditional." The result is a differentiation in financial standards and thinking, which is considerably more pronounced than in other countries. Here we have no economic or social "capital" typical of Europe; and this, coupled with the survival of unit banking, has been, and still is to some extent, instrumental in emphasizing local differences in business psychology. Fundamentally, of course, historical background produces the traditions prevailing in each community; and Chicago's tradition has been, until as recently as the great depression, that of periodic booms far above the average, followed by a tightening, and in some instances a collapse, of the credit structure, which in turn has been corrected or offset by the natural accretion of population, commerce, and industry. Real estate values have risen in each upturn, far beyond their previous peaks, thus maintaining a general belief in the soundness of such investment as a source of capital gains.[74] One of Chicago's most important and most popular business activities—that of sub-

[74] Cf. Hoyt, *op. cit.*, pp. 368 ff., 456 ff.

dividing, developing, financing, and managing real estate—was essentially based on this "gold-mine" character of the local land, apparently well substantiated by historical record; and this has been very influential in shaping the local standards and ideals of enterprise. It is quite significant in this connection that a large part of the major fortunes accumulated in Chicago had considerable to do with urban land speculation. Both the latest waves of intense real estate activity and the long-run results of family wealth built up and conserved in continued land ownership are, by no means, general characteristics of the cities of the Middle West. Chicago has an unparalleled fame or notoriety on both scores.

No "inside" history of Chicago fortunes exists, not even for the nineteenth century. The available knowledge of the local growth of major family fortunes prior to 1929—even discarding such spectacular speculative bubbles as the utility empires represented by the names of Yerkes and Insull, which were certainly not a mere accidental outgrowth of Chicago booms[75]—indicates that they have not been typically acquired through the thrifty process of step-by-step accumulation saved from current income. Much of the money generally supposed to have been obtained in manufacturing and trading owes its existence to pure speculation in land, in grain, and in securities. In addition, fabulous growth has been the characteristic feature of Chicago industry, similar to that in real estate and not paralleled on a comparable scale by many cities, even in America. The aggressive expansion of some of its leading industrial concerns, particularly under the Moores and J. W. Gates, belongs in the most picturesque and wasteful chapters of American economic history. The tendency was, among extreme cases, to build up a form of concentrated capitalistic growth, creating tremendous systems of multiple units, based on aggressive salesmanship and, in many cases, bold anticipation of future developments rather than on "sound" finance.

[75] Cf. G. Marshall, "C. T. Yerkes," *Encyclopedia of the Social Sciences*, XV (1935), 513–14; C. E. Merriam, *Chicago: A More Intimate View of Urban Politics* (New York, 1929), pp. 196–202 (on Yerkes); and "Stock Exchange Practices," *Hearings of the Committee on Banking and Finance*, U.S. Senate, Vol. V (1933) (on the Insull empire).

In this respect, too, Chicago has acquired a nation-wide prominence and international reputation.[76]

As a commercial center, Chicago has been, from the beginning, the chief center of speculation in grains and other farm products. In grain futures it has almost the position New York has in security speculation. About eight-ninths of the total grain futures are traded in Chicago;[77] even after the cash market largely "moved," the Board of Trade remained the world's outstanding market for grain futures, its wheat pit the hunting ground of many a famous speculator and the battlefield of the world's most spectacular and largest-scale grain-market manipulations.[78]

These are all symptoms of a bold drive and enterprising spirit to which the city owes so much—wasteful in many ways, vindicated by the long-run results in many others. It is small wonder that it has become ingrained in its economic thinking and, at times, has dominated the local ideas about things, sound or unsound, in financial matters. Chicago's banking record—with conservative bankers frequently imported from New England, Iowa, and elsewhere—showed, until not long ago, a degree of recurring readiness to finance unorthodox ventures through overcourageous commitments. Excessive investment in real estate, as mentioned above, had become an important feature of local banking (with significant exceptions) and was an outstanding source of trouble for many institutions, not to be excused by reference to alleged lack of local outlets for funds. Chicago banks were among the first in this country to develop from commercial banks to the *credit mobilier* type,[79] with consequent hazards. Their close connection with industrial finance has been an essential factor in local growth and also in local disaster, probably outdoing most

[76] The history of the house of Armour offers characteristic samples of the adventurous fortunes of this aggressive type of industrial expansion; cf. H. Leach and J. C. Carroll, *Armour and His Times* (New York, 1938), where the story of the Armour speculations is somewhat "toned down."

[77] Cf. *Report of the Federal Trade Commission on the Grain Trade* (Washington, D.C., 1920), p. 42.

[78] Cf. C. H. Taylor (ed.), *History of the Board of Trade of the City of Chicago* (Chicago, 1917), e.g., II, 1200 f.; Leach and Carroll, *op. cit.*, chaps. xiv–xvi.

[79] Cf. C. James, *History of Chicago Banks* (New York, 1938), chap. xviii.

other midwestern banking communities in the last sixty years. Within that period Chicago has also been swept by such crises in its savings-bank and building associations as few other cities have ever witnessed.

It is small wonder that the dominance of this speculative spirit —notwithstanding the existence and concomitant growth of "normal" enterprise—had a strong influence on many lines of financial endeavor. Its effect on insurance had to be twofold. It diminished, on the one hand, the normal interest in a business, the very essence of which is extended and involved calculation of long-run costs and returns, with little place left for the free play of imagination, a business founded upon, and dominated by, the only exact science—mathematics. On the other hand, the influence of this spirit was bound to be to create an excessive interest in insurance at boom times. The record of insurance failures in Chicago in the last crisis has been mentioned. Virtually all the difficulties of local insurance, unparalleled in any single city since the seventies, were due to more or less reckless use of the investment funds. The Illinois Life invested better than $4\frac{1}{2}$ million dollars, or 26 per cent of its total admitted assets, in two local hotels, which they supported by collateral loans in an ill-advised manner during the early days of the crisis. The troubles of the National Life Insurance Company of the United States were largely due to a failure to exercise the principle of risk diversification in their financial policy.[80] The facts that these two substantial failures were located in Chicago and that each case had to do with speculative engagements dictated by characteristic optimism harmonize too much with the local spirit of financial enterprise to be classified as mere accident. In spite of the fact that failure can be attributed to obvious mistakes of management, one cannot forego the thought, in passing, that if insurance had been developed to a greater degree in Chicago and if the financial powers and the enforcing authorities had been more familiar with the business itself, the effects of the crisis might have been greatly mitigated. But the most important lesson, if any, of these adverse experiences is the realization of the fact that the

[80] Cf. *Illinois Insurance Reports* for 1932 and 1933.

speculative character of the commitments which led into disaster was due to lack of control by "conservative" and experienced financial interests. They were virtually absent in the "game"; their attention was concentrated in other fields.

XIII. SUMMARY AND OUTLOOK

Apparently, insurance business has never been considered as particularly attractive by the "substantial" businessmen of Chicago. It has been recognized naturally as a service necessary for the transaction of modern business; but Chicago, as a whole, has apparently been content to buy the service rather than to provide it. Here and there, attempts have been made to found insurance institutions; but, judging by comparative standards, very few, indeed, of the outstanding businessmen have been inspired by the prospects. This was even more true in the early and formative days of the city. It is true that, following the financial collapse of 1873, J. V. Farwell, in connection with Ezra Cornell and others who were then great figures in the development of Chicago, purchased the stock interest in the National Life Insurance Company of the United States from the creditors of Jay Cooke and Company and moved the offices of that company to Chicago; but for reasons that do not appear, they disposed of their interest a few years later to people who allowed the company to become dormant. Developments which have since taken place either were short-lived boom experiments, such as at the very height of the 1920's, and doomed to failure owing to their essentially speculative character, or else they did not reach far beyond the first beginnings of a major growth.[81]

Whether this course was mere "accident" or whether it can be imputed to definable factors is very difficult to determine. The upshot of the foregoing discussion is essentially negative; it eliminated hypothetical factors, or reduced their significance, for the explanation of the anomalous underdevelopment in the insurance field shown by a credit market of Chicago's size and vitality. The tax situation in the state and the county, which,

[81] It may be recorded as characteristic that attempts by prominent local interests (led by Colonel McCormick of the *Chicago Tribune*) to attract local capitalists and banks in the 1920's to insurance underwriting have met with little success.

time and again, has been blamed, was certainly not responsible. The legal and administrative setup of the state has not always been what it should have been, and it might have had discouraging effects on the businessman who did not need to face such "political" complications in most other fields of financial activity. But they were temporary, at worst, and were probably more often responsible for overgrowth than for the opposite. There was no lack of interest in the insurance service which would explain the lack of interest in insurance underwriting. Nor could the much advertised local failures of the last crisis have been responsible for a course which antedates them by a generation's lifetime or longer.

The reason for the failure to create insurance institutions comparable with the size and the importance of the city may be chargeable, to some extent, to the "character" of the city. It used to be a "fast-money" town: turnover was rapid; profits were large; and the early citizens dealt with tangible things—land, lumber, grain, hogs, and cattle, all of which had a cash market and all of which were in demand as articles of speculation, in such a way as to assure the possibility of quick liquidation. The bulk of the population, in what must have been a boom town of extraordinary impetus, probably lacked interest in slow savings devices. A large percentage of the population was on the move or was involved in the kaleidoscopic changes incident to the feverish activity that has distinguished the city.

Therefore, a business that dealt in the remote future, that required long and abstruse calculations, and that offered limited liquidation chances, the results of which extended over a period of years and the profits of which, though comparatively certain, were small in the first years, did not appeal to the bold spirits of those days—and, in fact, was not in the tempo of the city as a whole. The interest was in equities, in turnovers—in quick appreciations and immediate profits. The mortgage money, the long-term investment, was carried by eastern interests and, in many cases, by European groups (which, however, were largely also playing the game of local speculation).

Consequently, it is easy to see how the tempo of the town and the temperament of the people were not favorable (until a rather late date) to the creation of insurance institutions. What the economic founders of the city failed to see, or, if seeing, left to their successors or to a more convenient season, was this: while the lesser service—the protection for life, property, or what not—could be obtained elsewhere, the community lost the benefit of the great service which institutions of this character perform, to wit: the creation of pools of capital available for long-term investment, which supplement the benefits extended to the community by banks and other credit institutions.

In the last twenty-five or thirty years, in spite of hectic interruptions, the financial traditions of the city seem to have undergone a gradual change. It certainly has come of age in the period of the long depression and its aftermath. Here, as elsewhere—for the time being, at least—government bonds have displaced investment of the more aggressive sort in industrial ventures. This change in the spirit of the town has created new and, on the whole, more conservative standards of investment. Whether or not these standards will continue in their present form is a question. They probably will be modified; but, at any rate, the financial practices and the reputation of the community have been improved along many lines. The legal and administrative background has also been reformed and is now, especially since the new insurance code of 1936, regarded as one of the most "scientifically" managed in the country.

Whether or not the increase of capital available and its acceptance of a low rate of return will bring insurance companies into favor as a vehicle for investment is an interesting speculation. Whether or not such investment will be profitable in competition with large and well-established institutions is also a matter of question—a question, however, that would be answered if the influential element of the community realized the need for such institutions to round out the credit picture in Chicago. Support from this element, accompanied by the natural advantages which have made Chicago what it is, should, over a term of years, ma-

terially offset the apparent handicap. There is no "natural monopoly" in this field, and a relatively small group of determined men, enjoying the confidence of their community, could make considerable progress in a comparatively short time. Such a drive might work itself out through mergers, bringing accretion to a present existing company; or an effort might be made to attract to Chicago the home offices of companies now in existence. There are several established nuclei which may eventually provide the answer without any conscious effort on the part of the community, owing to the fact that the growth of these institutions, once definitely established, may tend to approximate geometric progression.

APPENDIX

TABLE 1

TOTAL INSURANCE ASSETS AS OF END OF 1936*

STATES	NUMBER OF FIRMS			ASSETS (IN $000)			ASSETS (IN $000)		
	Total	Life	Other	Total	Life	Other	Stock	Mutual	Fraternal
Alabama	12	8	4	20,617	17,861	2,756	19,056	0	1,561
Arizona	4	3	1	1,458	1,095	363	761	0	697
Arkansas	4	4	0	3,985	3,985	0	3,985	0	0
California	33	8	25	442,782	334,437	108,345	213,876	225,728	3,178
Colorado	9	6	3	36,242	32,490	3,752	17,241	1,125	17,876
Connecticut	50	10	40	2,828,618	2,170,088	658,530	2,267,321	509,015	52,282
Delaware	7	2	5	24,426	19,869	4,557	22,644	1,782	0
District of Columbia	15	7	8	101,498	97,632	3,866	29,386	66,975	5,137
Florida	4	3	1	6,741	6,271	470	6,741	0	0
Georgia	8	6	2	10,460	7,399	3,061	7,399	3,061	0
Idaho†									
Illinois	101	57	44	673,260	522,437	150,823	301,847	102,746	268,667
Indiana	29	13	16	306,154	286,547	19,607	165,059	129,679	11,416
Iowa	39	15	24	507,614	474,809	32,805	190,829	294,819	21,966
Kansas	28	16	12	80,753	68,402	12,351	43,957	9,196	27,600
Kentucky	11	7	4	35,839	33,870	1,969	21,820	14,019	0
Louisiana	6	5	1	34,399	33,382	1,017	33,838	245	316
Maine	3	1	2	22,080	21,460	620	227	21,853	0
Maryland	25	9	16	228,186	75,765	152,421	204,479	23,707	0
Massachusetts	82	17	65	2,394,456	2,082,384	312,072	225,036	2,125,210	44,210
Michigan	37	10	27	181,526	125,049	56,477	74,731	16,069	90,726
Minnesota	34	14	20	213,353	134,255	79,098	123,957	55,167	34,229
Mississippi	3	3	0	14,106	14,106	0	14,106	0	0
Missouri	35	17	18	338,256	284,546	53,710	329,487	3,542	3,227
Montana	3	2	1	14,287	13,586	701	14,117	170	0
Nebraska	31	23	8	260,604	253,031	7,573	79,053	31,558	149,993
Nevada†									
New Hampshire	15	3	12	41,801	12,667	29,134	34,865	3,431	3,505
New Jersey	42	9	33	4,261,825	4,019,737	242,088	265,910	3,986,632	9,283
New Mexico	1	1	0	183	183	0	183	0	0
New York	252	38	214	12,218,851	10,535,049	1,683,802	1,693,656	10,498,745	26,450
North Carolina	16	9	7	116,468	107,514	8,954	111,561	4,907	0
North Dakota	6	3	3	16,970	15,981	989	3,918	1,195	11,857
Ohio	72	31	41	750,846	688,675	62,171	646,863	32,359	71,624
Oklahoma	12	6	6	12,247	11,013	1,234	11,228	471	548
Oregon	6	4	2	23,824	22,161	1,663	811	16,456	6,557
Pennsylvania	105	40	65	1,763,724	1,356,763	406,961	509,046	1,149,361	105,317
Rhode Island	25	3	22	99,876	8,204	91,672	35,721	57,896	6,259
South Carolina	10	7	3	12,490	9,410	3,080	11,904	586	0
South Dakota	7	2	5	8,586	6,430	2,156	8,092	494	0
Tennessee	12	11	1	109,619	109,189	430	101,173	5,282	3,164
Texas	49	24	25	269,383	227,780	41,603	248,111	5,944	15,328
Utah	3	2	1	15,348	13,824	1,524	15,348	0	0
Vermont	7	1	6	190,770	187,775	2,995	484	190,286	0
Virginia	17	12	5	140,508	134,687	5,821	139,471	0	1,037
Washington	12	6	6	57,133	29,465	27,668	47,932	6,959	2,242
West Virginia	3	3	0	12,484	12,484	0	11,113	0	1,371
Wisconsin	43	17	26	1,272,973	1,215,086	57,887	50,393	1,179,971	42,609
Wyoming†									
Total	1,328	498	830	30,177,609	25,838,833	4,338,776	8,358,736	20,776,641	1,042,232

* Compiled from data in the following sources:

Life insurance—*Insurance Year Book, 1937, Life Insurance Volume* (Philadelphia: Spectator Co.), pp. 3–295, 298–412, 866–82. (Excluding firms with less than $1,000,000 insurance in force.)

Other insurance—*Insurance Year Book, 1937, Casualty, Surety, and Miscellaneous* and 1937 *Argus Chart* (published by National Underwriter Co.), showing financial and operating reports of fire insurance companies (pp. 4–116, incl.). Excluding companies with less than $100,000 of admitted assets and duplication of assets of companies operating more than one class of business. Including United States branches of foreign companies in the city of the principal branch office. (Assessment, health and accident, reciprocal, interinsurance exchanges, and Lloyds omitted in tabulation.)

† Data not available.

TABLE 2

LIFE INSURANCE ASSETS, 1881–1936 (LEGAL-RESERVE COMPANIES)*

By States (in Thousands of Dollars)

States	1881	1886	1891	1896	1901	1906	1911	1916	1921	1926	1931	1936
Ala.	.....	.....	.....	.....	.....	.....	568	1,641	3,995	7,832	14,987	16,300
Ark.	.....	.....	.....	.....	.....	.....	1,132	867	1,839	3,480	4,171	3,985
Ariz.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	398
Calif.	963	1,486	2,359	3,069	4,951	13,076	27,074	48,537	88,123	172,447	293,840	331,259
Colo.	.....	.....	.....	.....	.....	704	1,664	4,824	9,043	16,113	17,352	14,614
Conn.	93,173	107,587	122,470	141,774	173,691	224,958	280,150	353,631	611,351	1,069,160	1,623,934	2,117,806
Del.	.....	.....	.....	.....	.....	.....	380	2,115	4,560	8,723	14,443	19,869
D.C.	.....	.....	.....	.....	38	157	311	632	4,225	29,643	65,530	92,495
Fla.	.....	.....	.....	.....	.....	189	657	248	.....	1,213	3,037	6,271
Ga.	.....	.....	.....	.....	.....	801	7,561	2,430	5,982	8,673	4,357	7,399
Idaho	.....	.....	.....	.....	.....	.....	324	636	2,053	.....	.....	.....
Ill.	3,598	2,472	2,107	2,034	4,616	18,864	34,617	56,563	105,121	189,909	321,749	253,770
Ind.	.....	.....	.....	59	1,444	10,242	22,980	37,625	67,278	128,132	232,736	256,482
Iowa	477	602	986	1,877	4,112	10,638	39,690	69,932	133,155	272,868	424,900	452,843
Kan.	.....	.....	.....	.....	.....	.....	1,098	3,957	10,199	25,772	48,266	40,802
Ky.	.....	.....	.....	.....	.....	173	3,974	6,195	11,039	24,876	39,359	33,870
La.	.....	.....	.....	.....	.....	298	467	6,084	11,214	20,602	29,393	33,066
Me.	6,247	6,120	6,298	7,011	8,982	12,683	17,890	19,096	19,021	19,870	22,334	21,460
Md.	1,274	1,434	1,726	1,981	3,010	4,439	6,759	10,227	19,535	34,897	58,142	76,111
Mass.	22,347	37,997	50,801	73,028	111,442	174,056	275,138	404,638	632,898	1,041,445	1,576,056	2,038,174
Mich.	1,072	1,720	3,427	5,358	7,273	9,903	13,083	16,142	26,698	44,408	36,566	34,323
Minn.	.....	.....	.....	.....	4,282	6,988	9,202	12,194	23,982	40,963	75,927	100,026
Miss.	.....	.....	.....	.....	.....	97	282	901	2,156	4,731	10,827	14,106

* Compiled from the Life Insurance History Section of the *Insurance Year Book* (Philadelphia: Spectator Co.), 1912, 1917, 1922, 1927, 1932, and 1937; *Life Insurance History, 1843–1910* (Philadelphia: Spectator Co.); supplemented by information in *Best's Life Insurance Reports*, 1912–1937, for information on changes in location of home office, title of company, or retirement from business. (Cf. Note on Table 1.)

TABLE 2—*Continued*

States	1881	1886	1891	1896	1901	1906	1911	1916	1921	1926	1931	1936
Mo.	408	410	411	470	666	2,176	9,768	32,570	91,089	196,764	296,349	279,319
Mont.	.....	.....	.....	.....	.....	.....	771	2,276	4,729	7,763	11,953	13,586
Neb.	.....	.....	139	199	435	2,917	9,806	22,225	45,371	63,661	111,535	103,038
Nev.	.....	.....	.....	.....	.....	.....	.....	.....	173	.....	.....	.....
N.H.	.....	.....	.....	.....	.....	.....	.....	1,216	2,169	4,851	8,088	9,162
N.J.	35,973	42,243	55,815	80,285	127,222	233,347	409,449	639,667	1,101,816	2,035,166	3,303,153	4,010,454
N.M.	.....	.....	.....	.....	.....	.....	351	781	2,081	.....	.....	183
N.Y.	217,439	301,705	474,908	722,006	1,118,378	1,665,622	2,250,895	2,822,447	3,538,893	5,231,467	8,283,656	10,578,987
N.C.	.....	.....	.....	.....	3	965	4,864	10,488	25,575	57,325	85,809	108,611
N.D.	.....	.....	.....	.....	.....	.....	300	1,540	1,615	2,037	3,733	4,124
Ohio	1,679	3,152	8,013	16,516	30,405	58,681	96,996	135,291	213,468	354,670	545,215	617,051
Okla.	.....	.....	.....	.....	.....	.....	1,216	1,391	1,562	4,370	9,880	10,465
Ore.	.....	.....	.....	.....	.....	230	1,147	2,399	3,282	6,872	11,454	15,604
Pa.	14,171	23,653	40,111	63,016	100,088	167,446	267,325	350,299	461,727	698,644	1,003,276	1,251,446
R.I.	.....	.....	.....	.....	.....	.....	306	531	952	1,511	1,949	1,945
S.C.	.....	.....	.....	.....	.....	117	298	882	2,215	4,210	7,146	9,410
S.D.	.....	.....	.....	.....	.....	9	1,314	2,295	4,600	4,603	6,373	6,430
Tenn.	.....	.....	.....	.....	.....	558	2,732	6,201	18,983	51,870	85,241	106,025
Tex.	.....	.....	.....	.....	105	974	11,154	21,007	52,178	106,239	180,569	222,332
Utah	.....	.....	.....	.....	.....	531	1,529	4,028	5,174	9,403	11,488	13,824
Va.	416	439	671	1,042	1,310	3,506	9,011	18,428	40,767	77,415	111,112	133,650
Vt.	2,559	3,881	7,564	13,543	22,382	37,510	53,443	66,832	79,757	104,984	144,508	187,775
Wash.	.....	.....	.....	.....	.....	195	2,859	5,602	13,585	25,309	23,557	27,223
W.Va.	.....	.....	.....	.....	.....	304	823	2,049	4,710	8,826	14,833	11,113
Wis.	18,803	26,648	48,809	92,634	151,945	221,290	287,739	373,435	515,706	749,483	1,013,713	1,172,477
Wyo.	.....	.....	.....	.....	.....	.....	.....	324	704	.....	.....	.....
Total	420,599	561,549	826,615	1,225,902	1,876,780	2,884,644	4,169,097	5,583,317	8,026,348	12,973,200	20,193,096	24,859,663

TABLE 3

LEADING CITIES IN INSURANCE AS OF END OF 1936*

Insurance Centers	Total Insurance Assets ($000)		Percentage of National Total		Life Insurance Assets ($000)		Percentage of National Life Total		Number of Life Insurance Firms	
Greater New York:										
New York, N.Y.	12,081,892		40.0		10,498,021		40.6		29	
Newark, N.J.	4,158,674		13.8		3,986,232		15.5		2	
Total	16,240,566		53.8		14,484,253		56.1		31	
East:										
Hartford, Conn.	2,756,071		9.1		2,117,806		8.2		5	
Boston, Mass.	1,508,190		5.0		1,272,825		4.9		11	
Philadelphia, Pa.	1,493,948		5.0		1,151,360		4.5		16	
Springfield, Mass.	613,018		2.0		576,292		2.2		2	
Baltimore, Md.	225,656		0.8		75,765		0.3		9	
Total	6,596,883		21.9		5,194,048		20.1		43	
		22,837,449		75.7		19,678,301		76.2		74
Middle West:										
Milwaukee, Wis.	1,181,649		3.9		1,156,283		4.5		9	
Cincinnati, Ohio	554,350		1.8		543,428		2.1		6	
Chicago, Ill.	412,084		1.4		285,946		1.1		43	
Des Moines, Iowa	459,999		1.5		446,286		1.7		10	
Omaha, Neb.	196,817		0.7		191,920		0.7		11	
Total		2,804,899		9.3		2,623,863		10.1		79
West:										
Los Angeles, Calif.		282,484		0.9		262,705		1.0		3
Rest of United States		4,252,777		14.1		3,273,964		12.7		342
Total United States		30,177,609		100.0		25,838,833		100.0		498

* For sources cf. Table 1.

TABLE 4

RELATIVE COST OF INSURANCE MANAGEMENT IN 1937*

Twenty-five Life Insurance Companies	Insurance in Force January 1, 1938	Total Income for 1937	Expense of Management for 1937	Ratio of Expense of Management to Total Income (Per Cent)	Ratio of Expense of Management to Total Income (Per Cent)	Expense of Management for 1937	Total Income for 1937	Insurance in Force January 1, 1938	Twenty-five Fraternal Societies
New York Life	$6,770,747,375	$434,066,948	$44,717,610	10.3	3.4	$912,609	$26,844,319	$603,904,633	Modern Woodmen of Amer.
Equitable (N.Y.)	4,764,669,611	408,353,475	37,735,557	9.2	5.5	955,696	17,228,099	409,665,723	Woodmen of World L. I. Soc.
Travelers	4,689,517,899	158,752,691	16,022,408	10.1	6.1	701,085	11,567,938	366,550,191	Royal Neighbors
Aetna	3,956,746,669	126,196,285	10,180,274	8.1	11.1	695,958	6,245,387	259,858,629	Knights of Columbus
Mutual Life (N.Y.)	3,758,762,033	227,339,024	17,271,552	7.6	3.4	396,155	11,631,591	182,805,094	The Maccabees
Penn Mutual	1,928,474,423	118,104,611	11,687,469	9.9	5.2	307,506	5,956,593	180,321,013	Aid Assn. for Lutherans
Union Central	1,142,801,072	66,996,452	7,600,092	11.3	6.2	471,582	7,561,711	167,186,246	Brotherhood of R.R. Trainmen
Connecticut General	1,127,366,929	54,053,783	6,560,710	12.1	4.3	240,272	5,583,844	163,716,454	Polish Nat. Alliance of Amer.
Connecticut Mutual	979,141,068	62,028,317	5,161,667	8.3	9.9	440,452	4,433,061	128,593,613	Woman's Benefit Assn.
Provident Mutual	961,125,422	54,365,311	6,135,533	11.3	4.6	225,739	4,863,733	126,754,292	Catholic Order of Foresters
Canada Life	817,192,538	41,036,840	4,892,898	11.9	8.9	459,938	5,150,128	115,134,258	Ind. Order of Foresters
Phoenix Mutual	644,629,429	45,427,060	8,678,431	19.1	9.7	382,982	3,949,774	100,080,405	Woodmen Circle
Equitable (Iowa)	571,985,070	30,501,476	3,534,547	11.6	6.7	309,910	4,054,432	90,914,993	Royal Arcanum
Guardian (N.Y.)	481,516,443	26,817,465	4,189,463	15.6	6.6	274,814	4,172,138	89,152,666	Security Benefit Assn.
Kansas City Life	446,530,497	19,225,881	2,307,742	12.0	10.7	288,679	2,697,478	81,838,116	Polish R. C. Union
Northwestern National	418,536,825	14,212,112	1,968,904	13.9	8.0	160,586	1,995,783	69,423,695	The Praetorians
Acacia Mutual	387,261,646	15,710,614	2,289,642	14.6	5.7	169,282	2,968,386	65,068,254	Ladies Catholic Benefit Assn.
Home Life (N.Y.)	379,511,099	18,515,016	2,522,404	13.6	9.3	180,284	1,935,557	62,526,529	Deg. of Honor Prot. Assn.
Columbian National	174,079,392	7,798,566	1,283,086	16.5	9.1	192,826	2,109,885	61,097,084	Lutheran Brotherhood
Continental-American	123,300,103	4,584,729	694,286	15.1	6.3	233,003	3,706,806	60,423,545	Woodmen of the World (Colo.)
Old Line Life (Wis.)	77,730,261	3,665,003	807,070	22.0	12.1	268,262	2,224,236	58,634,946	Prot. Home Circle
Union Mutual (Me.)	74,181,256	3,698,667	464,003	12.5	13.7	285,898	2,083,557	55,862,424	Ben Hur Life Assn.
Manhattan (N.Y.)	69,449,423	3,229,225	645,869	20.0	10.2	199,922	1,951,838	53,110,933	Fidelity Life Assn.
North American (Ill.)	64,104,706	2,262,709	599,641	26.5	11.3	186,260	1,647,582	50,355,296	First Cath. Slovak Union
Capitol Life (Colo.)	57,091,762	2,174,073	476,427	21.9	5.7	227,199	3,970,408	49,629,839	A.O.U.W. of N.D.
Average	.....	.....	.....	10.2	6.2	.....	.....	.....	.....

* Source: *Statistics of Fraternal Societies, 1938* (44th annual ed.; Rochester, N.Y.: Fraternal Monitor).

TABLE 5

PER CAPITA SAVINGS AND INSURANCE FUNDS BY STATES

States	Per Capita Savings* 1934	Per Capita Insurance Funds† 1936‡	States	Per Capita Savings* 1934	Per Capita Insurance Funds† 1936‡
Alabama	$ 29	$ 7	New Mexico	$ 21	§
Arizona	32	4	New York	527	$ 948
Arkansas	25	2	North Carolina	33	34
California	311	74	North Dakota	34	24
Colorado	98	34	Ohio	227	112
Connecticut	513	1,647	Oklahoma	54	5
Delaware	316	95	Oregon	90	24
District of Columbia	355	171	Pennsylvania	272	175
Florida	37	4	Rhode Island	510	147
Georgia	28	3	South Carolina	21	7
Idaho	39	§	South Dakota	20	12
Illinois	115	86	Tennessee	33	39
Indiana	114	89	Texas	37	45
Iowa	45	200	Utah	128	30
Kansas	69	43	Vermont	421	506
Kentucky	69	13	Virginia	90	53
Louisiana	93	16	Washington	123	35
Maine	311	26	West Virginia	59	7
Maryland	314	137	Wisconsin	145	438
Massachusetts	676	547	Wyoming	80	§
Michigan	86	38			
Minnesota	103	81	National per capita	206	237‖
Mississippi	19	7	New England states	572	656
Missouri	87	86	Five states around Chicago	104	137
Montana	69	27	Pacific region (approximately the Twelfth Federal Reserve District)	225	57
Nebraska	100	191			
Nevada	68	§			
New Hampshire	477	83			
New Jersey	491	994			

* Figures from M. Palyi, *The Chicago Credit Market*, p. 38. Savings include deposits on savings passbooks in all banks and liabilities of buildings and loan associations.

† Cf. Table 1, col. 4 (total assets in all insurance firms).

‡ Population data as of July, 1935, official estimate (*Statistical Abstract of the U.S., 1937*).

§ Data not available.

‖ Approximately.

TABLE 6

LARGEST LIFE INSURANCE COMPANIES—ASSETS OF $500,000,000 AND ABOVE, AS OF DECEMBER 31, 1936*

Name of Company	Form of Organization	Location	Admitted Assets ($000)	Date of Organization
Metropolitan Life Insurance Co.	Mutual	New York, N.Y.	$ 4,494,702	1866
Prudential Insurance Co. of Amer.	Corporate	Newark, N.J.	3,367,774	1873
New York Life Insurance Co.	Mutual	New York, N.Y.	2,404,236	1841
Equitable Life Assurance Society of the U.S.	Mutual	New York, N.Y.	1,984,450	1859
Mutual Life Insurance Co.	Mutual	New York, N.Y.	1,308,279	1842
Northwestern Mutual Life Insurance Co.	Mutual	Milwaukee, Wis.	1,129,854	1857
Travelers Insurance Co.	Corporate	Hartford, Conn.	860,471	1866
John Hancock Mutual Life Insurance Co.	Mutual	Boston, Mass.	796,303	1862
Penn Mutual Life Insurance Co.	Mutual	Philadelphia, Pa.	636,876	1847
Mutual Benefit Life Insurance Co.	Mutual	Newark, N.J.	618,458	1845
Massachusetts Mutual Life Insurance Co.	Mutual	Springfield, Mass.	572,113	1851
Aetna Life Insurance Co.	Corporate	Hartford, Conn.	547,605	1850
Total	.....	.....	$18,721,211	.....
Percentage of Total United States	.....	.....	75	.....
Total United States	.....	.....	$24,874,316	.....

* Source: *Insurance Year Book, 1937* (Philadelphia: Spectator Co.), section on "Life Insurance History."

TABLE 7

CHICAGO AS A FINANCIAL CENTER COMPARED WITH COUNTRY AS A WHOLE

(Dollar Readings in Thousands)

	1900 Chicago	1900 U.S.	Chicago as Percentage of U.S.	1913 Chicago	1913 U.S.	Chicago as Percentage of U.S.	1929 Chicago	1929 U.S.	Chicago as Percentage of U.S.	1936 Chicago	1936 U.S.	Chicago as Percentage of U.S.
*Resources of banks** (on or about June 1)	$452,873‡	$10,785,825	4.2	$1,182,172	$25,712,164	4.6	$3,504,250	$72,172,505	4.9	$3,437,389	$67,198,581	5.1
Resources of mutual savings bank	.....	2,336,460	0	.....	4,104,640	0	.....	10,006,452	0	.....	11,409,056	0
Resources of banks, excluding mutual savings bank	452,873‡	8,449,365	5.4	1,182,172	21,607,524	5.5	3,504,250	62,166,053	5.6	3,437,389	55,789,525	6.2
Assets of building and loan associations† (as of close of year)	18,524	571,367	3.2	23,056	1,248,479	1.8	109,312	8,695,154	1.3	68,464	5,741,935	1.2
*Stock-exchange transactions*** (as of close of year):												
Stocks (number of shares)	1,419	138,380§	1.0	1,101	83,471§	1.3	82,216	1,124,993§	7.3	19,456	496,147§	3.9
Bonds	8,362	578,359§	1.4	9,391	501,155§	1.9	4,975	3,773,385§	0.1	194	3,576,874§	0.01
Life insurance assets|| (as of close of year)	6,931	1,912,962	0.4	37,815	4,317,246	0.9	208,544	13,633,076	1.5	285,946	25,898,956	1.1
Assets of legal-reserve companies††	3,360	1,876,780	0.2	27,584	4,169,097	0.7	139,602	12,973,200	1.1	161,771	24,859,663	0.6
Assets of fraternal associations‡‡	3,571	36,182	9.9	10,231	148,149	6.9	68,942	659,876	10.5	124,175	1,039,293	12.0

* Source: Comptroller of the Currency, *Annual Reports;* Illinois State Auditor, *Statement of State Banks of Illinois* for 1900, 1913, 1929, and 1936.

† Source: H. M. Bodfish (ed.), *History of Building and Loan in the United States;* U.S. Building and Loan League, *Building and Loan Annals;* Illinois State Auditor, *Annual Reports,* on mutual building loan and homestead association.

‡ Does not include resources of private banks, which were a negligible part of total bank resources.

§ Figures are for the New York Stock Exchange.

|| Life insurance figures are for 1901 (fraternal figures, 1902), 1911, 1926, and 1936; cf. Table 2.

** Source: *Commercial and Financial Chronicle; The Security Markets* (New York: Twentieth Century Fund, 1935).

†† Source: Cf. Table 2.

‡‡ Source: *Insurance Yearbooks, Life Insurance Volumes; Statistics on Fraternal Orders* (Philadelphia: Spectator Co.).

TABLE 8

LIFE INSURANCE FIRMS WITH ASSETS IN EXCESS OF $25,000,000 IN 1936*

States	No. of Companies	Total Assets (in $000)		Percentage of Total
Northeast	.....	.....	$20,133,418	83.6
Connecticut	6	$ 2,163,999		
Massachusetts	7	2,042,619		
New York	7	10,469,010		
Pennsylvania	5	1,190,878		
New Jersey	2	3,986,232		
Vermont	1	187,775		
Washington, D.C.	1	66,306		
Maryland	1	26,599		
Five states around Chicago	.....	.....	2,193,466	9.1
Illinois	8	323,345		
Indiana	3	226,923		
Michigan	2	83,024		
Wisconsin	1	1,129,854		
Iowa	4	430,320		
Ohio	5	590,504	590,504	2.5
Middle West	.....	.....	444,229	1.8
Nebraska	3	183,372		
Missouri	2	223,576		
Minnesota	1	37,281		
South	.....	.....	421,347	1.7
Texas	3	158,253		
Tennessee	1	48,146		
Virginia	2	115,750		
Louisiana	1	31,566		
North Carolina	1	67,632		
West:				
California	3	307,913	307,913	1.3
Total	.....	.....	$24,090,877	.....
Percent five states around Chicago are of total	.....	9.1	.....	.....

* Source: *The Insurance Yearbook, 1936, Life Insurance Volume* (Philadelphia: Spectator Co.).

TABLE 9

PREMIUM INCOME, BY STATES, OF ILLINOIS LIFE INSURANCE LEGAL-RESERVE COMPANIES IN 1936*†

(In Thousands of Dollars)

Income Originating from	Central Life Chicago	Continental Assurance Chicago‡	Country Life Chicago	Hercules Chicago	Mutual Trust Chicago	North American Chicago	Supreme Liberty Chicago§	Federal Life Chicago	Alliance Peoria‡	Franklin Springfield‖	Illinois Bankers Monmouth	State Farm Bloomington	Other Companies	Total	Percentage
Arkansas	.....	.....	.....	45	.....	.....	.....	14	8	.....	94	.....	.....	161	0.5
California	60	176	.....	125	138	86	.....	78	113	68	.....	87	.....	931	3.0
Colorado	.....	37	.....	55	.....	19	.....	33	.....	124	.....	3	.....	271	0.9
Connecticut	.....	.....	.....	3	702	.....	.....	.....	.....	.....	.....	.....	.....	705	2.3
District of Columbia	.....	172	.....	7	.....	.....	36	.....	.....	.....	.....	.....	.....	215	0.7
Florida	.....	.....	.....	39	.....	.....	.....	42	.....	144	12	.....	.....	237	0.8
Georgia	.....	.....	.....	111	.....	.....	.....	4	.....	200	.....	.....	.....	315	1.0
Illinois	531	1,531	1,889	460	1,118	246	202	803	829	1,018	1,133	142	1,528	11,430	37.1
Indiana	38	107	.....	77	.....	70	.....	59	97	187	92	104	78	909	2.9
Iowa	78	101	.....	125	313	35	.....	88	201	19	140	35	37	1,172	3.8
Kansas	7	13	.....	70	.....	60	.....	14	147	181	84	.....	10	586	1.9
Kentucky	.....	70	.....	40	.....	.....	24	5	.....	.....	.....	.....	.....	139	0.5
Massachusetts	.....	.....	.....	5	655	.....	.....	.....	.....	.....	.....	.....	.....	660	2.1
Michigan	196	562	.....	482	199	88	101	260	386	261	.....	112	30	2,677	8.7
Minnesota	74	41	.....	81	504	.....	.....	28	19	44	.....	142	14	947	3.1
Mississippi	.....	.....	.....	25	.....	.....	.....	.....	.....	229	.....	.....	.....	254	0.8
Missouri	45	101	.....	100	.....	107	68	88	56	273	114	36	.....	988	3.2
Nebraska	16	16	.....	32	56	.....	.....	14	89	122	40	23	.....	408	1.3

* Data provided by courtesy of the Spectator Co., Philadelphia.

† Excluded companies with less than $600,000 income.

‡ Includes group insurance.

§ Includes industrial insurance.

‖ Includes industrial and group insurance for the states of Arkansas, California, Colorado, Connecticut, District of Columbia, Florida, Georgia, and Illinois.

TABLE 9—*Continued*

Income Originating from	Central Life Chicago	Continental Assurance Chicago‡	Country Life Chicago	Hercules Chicago	Mutual Trust Chicago	North American Chicago	Supreme Liberty Chicago§	Federal Life Chicago	Alliance Peoria‡	Franklin Springfield‖	Illinois Bankers Monmouth	State Farm Bloomington	Other Companies	Total	Percentage
New Hampshire	.....	.....	.....	.....	137	.....	.....	.....	.....	.....	.....	.....	.....	137	0.4
New Jersey	.....	62	.....	16	109	138	.....	.....	.....	.....	.....	3	.....	328	1.1
North and South Dakota	63	4	.....	37	160	61	.....	.....	10	.....	9	13	.....	357	1.2
Ohio	120	618	.....	185	211	283	251	44	54	114	86	.....	15	1,981	6.4
Oklahoma	.....	53	.....	26	.....	.....	.....	61	49	55	136	.....	.....	380	1.2
Oregon	.....	23	.....	67	46	.....	.....	8	.....	.....	.....	.....	.....	144	0.5
Pennsylvania	.....	243	.....	186	.....	.....	.....	91	73	66	.....	.....	.....	659	2.1
Tennessee	.....	.....	.....	60	.....	.....	71	8	.....	122	.....	.....	.....	261	0.8
Texas	73	210	.....	132	.....	.....	.....	169	97	.....	812	.....	.....	1,493	4.8
Washington	.....	39	.....	41	171	155	.....	.....	.....	.....	.....	27	.....	278	0.9
Wisconsin	.....	248	.....	51	446	.....	58	.....	.....	234	.....	.....	.....	1,134	3.7
Other states**	15	68	.....	246	240	.....	.....	23	3	.....	.....	26	.....	679	2.2
Total	1,316	4,495	1,889	2,929	5,205	1,348	811	1,934	2,231	3,461	2,752	753	1,712	30,836	100.0

** States with premiums paid to all companies amounting to less than $100,000.

TABLE 10

COST-RATIO OF INSURANCE BUSINESS*

Company	Insurance in Force (Dec. 31, 1925)	Expense Ratio† (Per Cent) (Year 1925)	Ten Years' Moving Average of Expense Ratio (Per Cent)
New York Life	$5,219,083,929	4.12	3.85
Equitable (N.Y.)	4,394,848,901	4.10	3.82
Mutual	3,255,615,753	4.12	3.80
Northwestern Mutual	3,100,756,578	3.59	3.83
Mutual Benefit	1,935,188,845	3.53	3.84
Penn Mutual	1,469,898,900	3.90	3.90
Massachusetts Mutual	1,286,309,867	3.24	3.99
Union Central	1,215,562,385	4.00	4.12
New England Mutual	857,429,816	3.83	4.06
Bankers (Iowa)	843,562,924	4.07	4.20
Provident Mutual	757,589,000	3.82	4.27
Connecticut Mutual	608,770,230	3.89	4.31
Missouri State	587,586,508	4.38	4.37
State Mutual	472,826,603	3.78	4.35
National	462,130,851	4.06	4.43
Phoenix Mutual	430,258,291	4.80	4.56
Equitable (Iowa)	424,243,948	4.54	4.60
Lincoln National	404,061,193	3.46	4.58
Reliance	322,818,395	5.21	4.69
Fidelity Mutual	318,331,024	4.73	4.62
Kansas City	307,607,440	4.25	4.55
Guardian	290,912,305	4.52	4.57
Home (N.Y.)	281,338,015	4.21	4.70
Jefferson Standard	265,816,777	4.53	4.77
International	262,914,542	5.36	4.77
State Life	215,288,232	5.35	4.77
Northwestern National	212,399,698	4.29	4.73
Acacia	196,145,636	4.52	4.75
Columbia National	191,892,086	4.56	4.75
National Life & Accident	188,801,729	4.06	4.75
Franklin	175,489,299	4.73	4.90
National of the U.S.	167,490,393	5.40	4.91
Illinois	167,134,020	4.94	4.75
Berkshire	166,463,538	4.46	4.75
Central Life Assur.	155,482,575	5.43	4.84
Great Southern	146,056,525	4.87	4.90
Atlantic	127,023,484	4.55	4.88
Minnesota Mutual	121,845,655	4.46	.....
Michigan Mutual	118,245,271	4.63	.....
Peoria	112,046,432	5.50	.....
Mutual Trust	110,289,519	5.27	.....
Bankers Nebraska	110,267,742	3.81	.....
Western States	108,002,828	4.88	.....
Inter-Southern	107,006,475	5.04	.....
Bankers Reserve	101,533,637	6.00	.....
Southland	100,077,572	4.68	.....

* Source: *Best's Insurance News* (Life Ed.), December, 1926, p. 174.

† The expense ratio used is per $1,000 insurance in force, weighted to allow for increased expense of new business at 5:1. Companies are excluded on which this conceivably would not be a fair test.

BOOK REVIEWS

Business and Government. By CHARLES CARROLL ROHLFING, EDWARD W. CARTER, BRADFORD W. WEST, and JOHN G. HERVEY. 3d ed. Chicago: Foundation Press, 1938. Pp. 780. $4.00.

Students in the field of social control will welcome this third edition of *Business and Government.* It follows the general plan of the earlier editions and brings the case material up to date.

The authors state that they have added two new chapters, "Business and Government" and "Theories of Constitutional Protection," in order to direct attention to the theoretical problems of social control. The latter chapter serves its purpose very well, and helps to give a well-rounded conception of the legal bases for government interference in business activity. The former chapter, which introduces the volume, represents an attempt to state the conditioning forces which have led us to consider the advisability of following a policy of social control. This introduction is very inadequate and is the product of confused and superficial thinking on the subject. Consequently it greatly detracts from the general excellence of the volume.

The larger question, which the authors should consider, is whether they should attempt to state the nonlegal theoretical problems in their book. This reviewer believes that justice cannot be done to the subject within the limits of one or a few chapters. Instructors in courses dealing with the social control of business will find it more advantageous to utilize material of the caliber of Clark's *Social Control* for the purpose of defining the problem.

Use of *Business and Government* for reference work would be considerably facilitated if the defective Index were improved.

De Paul University CYRIL O'DONNELL

Outdoor Advertising. By HUGH E. AGNEW. New York: McGraw-Hill Book Co., Inc., 1938. Pp. xiv+310. $3.50.

Advertising Media. By HUGH E. AGNEW and WARREN B. DYGERT. McGraw-Hill Book Co., Inc., 1938. Pp. viii+465.

Outdoor Advertising is a book that should be of value to executives and salesmen in the outdoor-advertising industry, but it cannot be

recommended as a text for undergraduate marketing students. If it is so used the student should be on guard against the persistent bias in favor of outdoor-advertising evidenced through an Introduction by Kerwin H. Fulton, president of Outdoor Advertising, Inc., and through the uncritical appraisal by the author, which continues to the final sentence of the book.

The favorable treatment given the outdoor-advertising industry throughout is shown on page 12 where, in discussing the organization of the industry, the statement is made, "At first sight, this organization seems complex, but further examination discloses very little duplication or waste effort between the several functioning units. . . . ." Further discussion, however, shows that Outdoor Advertising, Inc., a selling subsidiary owned by the plant operators through their national association, solicits contracts, prepares copy, and bills and collects on national business seemingly in competition with the National Outdoor Advertising Bureau, Inc., which is an organization owned and operated by advertising agencies through their national association. The points of conflict are not discussed by Agnew, but it seems obvious that there is much more duplication of effort between these two organizations than between, say, the space salesmen for a national magazine and the account executives of advertising agencies.

Outside of this important weakness, the book gives an adequate picture of the mechanics of outdoor advertising. Of particular interest is the chapter "Traffic and Trade," in which is reviewed the methods of determining trading areas, and the chapter on "The Traffic Audit Bureau, Inc.," which describes the methods of securing a circulation statement for outdoor panels. Single chapters on marketing, psychology, and art are included.

It is much more satisfying to review *Advertising Media*, which is essentially a careful revision of Agnew's book of the same title published in 1930 by D. Van Nostrand Company, Inc. Most of the tables in the original book have been brought up to date, and many of the examples cited in the text have been similarly revised. The most important changes have been in the chapter on "Radio," which has been completely re-written, and in the chapter on "Sign Advertising," which has been relabeled "Outdoor and Sign Advertising," and which brings up to date the organization and administration of outdoor advertising. Further changes have been made in the chapter on "Sampling, Utilities, Motion Pictures," which now includes a section on organized distributing agents for samples, a revision of the section on movies to

give more data on industrial films and the "one-minute movie," and a section on window displays.

Two new chapters have been added: an introductory chapter which carries the title "Mutual Problems of Space Seller and Buyer" and chapter xiii on "Direct Mail," thirteen of the twenty-five pages of which are devoted to postal regulations. An interesting addition has been made to the chapter on "Factors To Consider in Comparing Rates."

Agnew's original book on *Advertising Media* was sound and of considerable service to students and practitioners of advertising. In the new book the authors are no less sound, and they have added measurably to the previous performance.

GEORGE H. BROWN

University of Chicago

The Theory of Investment Value. By JOHN BURR WILLIAMS. Cambridge: Harvard University Press, 1938. Pp. xxiii+613. $5.00.

This work is of a type commonly termed *bahnbrechend* by German reviewers. The characterization is most apt, for the theory of investment value which the author sets forth breaks new ground in a field by no means over-tilled hitherto. Not that the field has been neglected; but all too frequently the cultivators have been strangers to, or at least been unwilling to employ, the most advanced scientific methods, and have not utilized the most effective available analytical devices. Mr. Williams gives evidence of being familiar with the best that economic science has to offer the analyst of economic and financial phenomena, and his analytical apparatus, in the form of mathematical method, is likewise well adapted to the job in hand.

The product is admittedly theoretical and the theory is good. For that reason it is highly practical. It cannot be repeated too often that, contrary to an all too common opinion, there is nothing more practical—that is to say, useful—than good theory. Pigou divides economic analysts into two classes—tool-makers and tool-users. The writer of this book is a tool-maker, and the box of tools that he has fashioned, if the tool-users will only take the trouble of learning how to handle them, should prove invaluable in solving problems of investment analysis. In the judgment of the reviewer, these tools, properly used, will lead to the achievement of results far more dependable than those usually achieved by investment analysts. The value of the tools is in no wise diminished by reason of the fact that their maker brought

to his task years of practical experience in the stock brokerage and investment counsel field.

The leading objective of the writer is to formulate the theory of investment value in such a way as to justify its having a place of its own in the general field of economics. In his own words, his purpose is "to outline a new sub-science that shall be known as the Theory of Investment Value and that shall comprise a coherent body of principles like the Theory of Monopoly, the Theory of Money, and the Theory of International Trade, all branches of the larger science of Economics."

Two subordinate objectives are (1) "to relate the abstract principles of Economics to the practical problems of investment, and to show how the theories of interest, rent, wages, and profits, taxes, and money, can be applied to the evaluation of stocks and bonds" and (2) "to examine certain economic consequences of the New Deal so far as the investor is concerned, and to determine the most important questions on which investment policy today must rest."

Although this book is addressed primarily to investors, who wish to proceed intelligently, and to professional analysts, it should at the same time command the interest of economic theorists. Speculators and those who profess to be able to forecast stock market movements could also study it with great profit; but they will be disappointed if they expect to find in it a set of rules for successful market operation or for predicting the next turn in stock prices. It is exclusively concerned with the problem of determining investment value, defined as the present worth of future dividends in the case of stock, or of the future coupons and principal in the case of a bond. The whole matter of market prices and price changes and the speculative gains resulting therefrom is dismissed as lying outside the scope of the study. In short, the task the writer has set for himself is the formulation of principles and methods for ascertaining what securities are worth intrinsically in the long run and not psychologically or fortuitously in the short run. For old rule-of-thumb he would substitute scientific methods of appraisal. In the reviewer's opinion, he has succeeded admirably.

Upon first examination, and especially to those who shudder upon encountering a mathematical symbol or a bit of algebra, the book may appear forbidding on account of the frequent appearance of algebraic formulas. Actually, the algebra used is simple, and careful explanations accompany all symbols which might prove troublesome for the nontechnical reader. And, as the writer points out, only specialists

need pay attention to the part in which the formulas appear: "all others can read the rest of the book without knowledge of mathematics." But neither the author nor the reviewer would be understood as offering the slightest apology for the use of mathematics in analysis. Serious students cannot afford to refuse the aid of mathematics. "The truth is that the mathematical method is a new tool of great power, whose use promises to lead to notable advances in Investment Analysis."

Obviously, calculations of present worth of future payments are no better than the dependability of those payments and, therefore, unless dividend payments can be estimated with reasonable accuracy, it is futile to devise formulas, no matter how good mathematically, for arriving at present worth. Thus the procedure called by the author "algebraic budgeting" may, in the course of time, turn out to be one of the most significant contributions of this book to investment analysis. If so, the author's hope would be fulfilled. The solution of the problem of estimating future dividends consists in constructing a budget of a company's future growth in assets, debt, earnings, and dividends, not in the usual accounting form of debit and credit, but in "algebraic form in a way that is altogether new to the accountant's art. Then, by the manipulation of algebraic symbols, the warp of development is traced through the woof of time with an ease unknown to ordinary accounting." "Algebraic budgeting" is fully illustrated by particular cases.

The author is not content merely with developing his theory and formulas. He illustrates them by application to specific case studies of the stock of the following corporations: General Motors, United States Steel, Phoenix Insurance, American Telephone, Consolidated Gas and United Corporation, and American and Foreign Power.

The material in the book is carefully organized and is presented in an unusually clear and direct manner. The book has a full and well-constructed Index.

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National Bank Failures and Non-failures. By HORACE SECRIST. Bloomington, Ind.: Principia Press, 1938. Pp. xix+309.

Though the vital question as to why banks fail has received considerable attention it has never had an adequate answer. The usual explanations have been in such terms as "too many banks," "small

banks," "mismanagement," "frozen loans," and "inadequate capital." Concerning the specific causes of failure and the precise behavior preceding collapse little is known. Since the United States shows every evidence of continuing its policy of "free" banking, with which bank failures are associated, it is imperative that we be able to distinguish between those practices which lead to survival and to failure.

In a study which he describes as an autopsy and diagnosis, Professor Secrist undertakes to provide the basis for determining evidences of banking strength and weakness. He analyzes from 1920 the balance sheets of 741 national banks which failed during 1925–32 and of 111 which were still in operation in 1933. Resources, deposits, loans and discounts, earning assets, and capital are the items selected for analysis. Failures are compared with banks that failed later and with nonfailures. Comparison is between banks in the same and in different size classes and between banks in the same and in different Federal Reserve districts.

Year-to-year changes in the balance-sheet totals of the foregoing items for individual failing and nonfailing banks are examined and compared. Relationships between these amounts, expressed in ratios, provide a further means of discovering the characteristics which accompany the fact and the time of bank failure. The result is a comprehensive and detailed record of the behavior associated with failure and survival of banks.

Some of the behavior tendencies conform with or supplement usual observations; others contradict accepted relationships. Marked declines in resources, deposits, loans and discounts, and earning assets preceding collapse accord with prevailing assumptions. A comparison of the capital-deposits relationship in distressed banks reveals an error in the conventional interpretation that a 10 per cent ratio is adequate for safety. Ratios were higher for failures than for nonfailures. Of the banks failing in 1932, for example, the ratio was above 20 per cent during 1925–31 in from 29 to 54 per cent of the banks. Thus judged by conventional standards the "safest" banks were the first to fail.

The author has relied entirely upon balance-sheet data. He admits that the inclusion of profit-and-loss data would have provided a more complete record of behavior tendencies. While the number studied is a small part of the total number of bank failures it is doubtless a representative sample of national bank failures. Before the conditions attending failure are fully understood, similar studies for state banks will be necessary.

An examination of the life-histories of the banks that apparently only narrowly escaped failure might prove particularly significant. Were there in 1929, for example, banks which survived but which showed no more apparent strength at that date than others that failed in 1932? Under different circumstances during 1930–32 might certain of the 1932 failures have been avoided? Might banks narrowly escaping "death" then have later become strong banks? While this study throws some light on these questions close observation of borderline survivals, if they can be identified, might add valuable evidence as to what practices make for strong banks. In a field where many complex factors are present, a quantitative study of this type is an enormous undertaking. A single inquiry cannot be expected to cover all phases of the problem.

There are also definite limitations on the use of this type of data. On the basis of the results it is impossible to predict with certainty the fact of failure and even less the exact date. Nor does the study indicate the causes of bank failure. It shows, for example, that deposit "starvation" accompanies collapse. The question as to why deposits decline—poor management, decline of the community, and inability to compete with other banks—is not answered. Through the primary objective was to discover evidences of banking weakness the study also establishes standards of operation. Bank administrators and supervisory officials should find the results useful.

The primary significance of this study is not in its results but in its method of approach. Traditional standards for measuring banking strength are disregarded. Instead there is presented a careful and objective analysis of quantitative data. As a result of this attack upon an old problem we have certain tentative, objectively determined standards for evaluating banking performance. It is to be hoped that similar studies of this type will continue the explorations begun in this analysis.

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The Science of Production Organization. By E. H. ANDERSON and G. T. SCHWENNING. New York: Wiley & Sons, 1938. Pp. 262.

This book purports to be a brief outline and description of the fundamentals underlying the process of organization for effective production. It is written in the tradition of the scientific management

movement and the discussion is organized around four main stages of the organizing process: (1) operation study and job analysis, (2) organization of the individual enterprise, (3) organization in connection with integration of industrial enterprise, and (4) rationalization which "continues the process of scientific organization and integration until an entire industry is brought under common control and management, and . . . . stops little short of the ultimate stages of national and international planning." This latter stage, as just defined, it is contended, apparently with approval, "represents the culmination of scientific management and organization as a technique for increasing the productive efficiency of industry."

In view of this broad declaration of conviction, this reviewer wishes that more space might have been given to rationalization—the discussion having been compressed into a scant five pages as compared to fifty-three and one hundred and ten pages, respectively, which are allotted to the first two phases of the problem; that is, operation study and internal organization, where the authors apparently feel on much surer ground. The general conclusion is that "there is a science of organization and that . . . . it has evolved by aggregation, by combining and blending the ideas and practices of many contributors rather than by reasoning from the premises of a few masters."

Copious quotations are made from these many contributors with a minimum of critical analysis and not very original outcome. For one who is not acquainted with this literature, the work will provide a useful summary and thus help one to avoid the necessity of spending many hours in searching a vast amount of the poorly organized materials which at present constitute the literature of management. For one who is reasonably familiar with these materials little that is new, either in content or in method of treatment, will be found in this book. A fairly complete Bibliography is appended.

W. N. MITCHELL

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The Causes of Economic Fluctuations, Possibilities of Anticipation and Control. By WILLFORD I. KING. New York: Ronald Press Co., 1938. Pp. xv+353.

Because Professor King's name has been identified with significant contributions to economic science, any work of his in the field of business fluctuations cannot be regarded lightly. His present book is

directed to the beginning student or to the general reader who, in Professor King's words, "is not interested in and is not equipped for winnowing a great mass of straw and chaff in order to arrive at a few grains of truth" (p. v). The book sets forth Profsesor King's conclusions concerning "the principal facts which have been established up to the year 1938 concerning the causes and cures for business ups and downs." It is not, and was not intended to be, a contribution to the pure theory of the business cycle, as were such recent works as Harrod's *The Trade Cycle* or Habreler's *Prosperity and Depression.*

The reader familiar with the business-cycle literature of recent years will find in the work little that is new with respect to the theory or interpretation of business fluctuations; but he will find an extremely readable presentation of misleading or inadequate explanations of depressions and a discussion of what Professor King considers to be a defensible theory, all of which is accompanied by a valuable collection of charts and graphs that will make the book appreciated especially by the readership to whom it was addressed.

After tracing in the Introduction—rather inadequately, in the reviewer's opinion—the conditions of equilibrium in the economic system, the writer discusses certain forces that make for business instability. He then examines the historical characteristics of business depressions in the United States and other industrialized nations. This factual material is followed by a discussion of misleading or inadequate explanations of the origins of "depressions." It should be observed that throughout the book Professor King appears to imply that "depression" represents an unusual aberration from a normal condition of "prosperity," and that all that is required is an explanation of depressions or of subnormal economic activity. This point of view invites the criticism of those students who, like the reviewer, believe that in a competitive, free enterprise economy, a large part of whose productive power is devoted to the creation of durable goods, business fluctuations—including *both* depression and prosperity—are inevitable, and that a satisfactory theory must be concerned equally with both phases of cyclical change.

Professor King leans strongly to the view that variations in solar radiations, over which mankind has no control, cause great swings in mental attitudes from pessimism to optimism, and that these psychological attitudes underlie business fluctuations (p. 355). In this view he stands in the tradition of Jevons, and has been profoundly influenced by Pigou's emphasis on successive errors of pessimism and errors of

optimism as originating causes of business cycles. However, he believes that the interference of erratic and unpredictable forces such as earthquakes, fires, floods, war, and legislative action make forecasting a risky business at best (p. 334).

A substantial fraction of the book is concerned with formulation of principles of popular policy for minimizing depressions and a discussion of the merits or defects of policies hitherto adopted for dealing with them. Professor King believes that the problem of minimizing fluctuations should be attacked mainly by controlling the tendency of the human race during periods of optimism to borrow too freely, by keeping financiers from building an unsound banking structure, by stabilizing the demand for goods and the general level of prices, by eliminating rigidities of prices and wages, and by preventing "the able-bodied members of our population from idling away their time or engaging in boondoggling" (p. 285). The last-named prescription would seem to be directed at a *symptom* of the disease rather than toward an elimination of the *cause*. Consequently, he puts great stress on more adequate control of credit and of the banking system. To the reviewer it would appear that the writer is too much preoccupied with the causal significance of monetary forces and hence unwisely pins his program of control too exclusively to these factors.

No small part of the value of this book for the student and the general reader is its extensive collection and citation of materials of other writers in the field, and the generous lists of references appended to each chapter. The chapter on "Cycles" (chap. xi) is especially suggestive in introducing data and charts of wavelike fluctuations in natural phenomena and in pointing out possible relationships with economic fluctuations.

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Speculation, Stock Prices and Industrial Fluctuations. By JAMES ALEXANDER ROSS, JR. New York: Ronald Press Co., 1938. Pp. xvi+426. $4.50.

Dr. Ross, professor of economics in the College of Liberal Arts and the Maxwell School of Citizenship and Public Affairs, Syracuse University, offers a modern and comprehensive study of the interrelations among stock speculation, stock prices, interest rates, the volume of credit, and the amount of investment, production, and profit. Specifi-

cally, he presents first an analysis of the effects of speculation on stock prices and the influence of stock prices on the aforementioned economic variables and, second, the reactions of changes in the variables on stock prices.

The author, believing that under modern large-scale monopolistic production the quantitative importance of the organized capital market is immense and constantly growing, points out that speculation is part and parcel of this market and must be given consideration as a contributor to the dynamic growth of capitalism and the cyclical movements which it experiences.

The first chapters of the book provide a sound economic background for the later discussion of speculation as it actually exists on the New York Stock Exchange; these examine some of the theoretical aspects of price, earnings, profits, monopoly and monopolistic competition, entrepreneurship, risk, and speculation. After discussing the value and price of stock and investment, speculation and gambling, the author, in the chapter on speculation and interest rates, concludes that speculation, through its influence on stock prices, tends to lower the cost of capital and interest rates on long-time borrowing, but, through its demand for short-time funds with which to hold stock, it tends to increase short-time bankers' rates. The first influence is presumably the more general.

Regarding the chief function of speculation—the stabilization of prices—Ross subjects both security and commodity markets to careful analysis and finds that the two types of markets are not comparable as to the operation of speculation as a price-stabilizing force. Although speculation was found to contribute to stability in commodity markets, the opposite is true in security markets.

The classical theory of speculation is criticized on the following grounds: "First, it is faulty because it assumes that all dealing for capital gains is speculation carried on by skillful, well-informed operators. Second, even if all speculation were carried on by the able operators, prices could be stabilized over some periods and not over other periods. Third, the theory is weak since it makes no analysis of the types of fluctuations which in fact exist. Fourth, it is wrong in the assumption that gain in speculation is a criterion of stabilization." In short, he holds that the traditional theory is faulty "as an integrated doctrine based on the foundation that the economic function of speculation is to decrease fluctuations in price."

After an analysis of the extent of the participation of the public and professionals in the market and the volume of margin trading, the

author introduces a scheme or outline of speculation which endeavors to appraise the speculative forces dominating the stock market according as they tend to equilibrate or disequilibrate price and investment value. Then follows a realistic examination of speculation during prosperity and depression and the indirect effects of speculation on industry and real investment.

The latter sections include separate chapters on short selling—found to be a disstabilizing force in the market—professional floor trading, specialists and in-and-out trading, speculative credit and business, and speculation and production cycles. The chapter on stock prices and real investment advances the hypothesis that the ability of stock prices to forecast improvements and decline in business activity may arise from the fact that stock prices are, in part, a cause of the business investment which follows and the resultant earnings of corporations; movements in stock prices tend to influence and alter investment expansion and contraction.

Significant conclusions reached in the final chapters are: (1) "The importance of stock speculation in the business cycle extends much beyond its direct influence on prices, for it involves the creation and contraction of bank credit and influences the rate of investment and consumer spending." (2) "Speculation and the credit created in its behalf are integral and causal in industrial fluctuations." (3) "It cannot be gainsaid that stock speculation is integral to the volume of production and an important influence on the turning points of the longer cycles."

The many statistical studies used to support the theoretical constructions derive data from the Securities and Exchange Commission, the New York Stock Exchange, and from Congressional investigations. The author makes good use of this material as in his formula for marginal trading. Bibliography and footnotes are extraordinarily thorough and complete. The volume is obviously the result of an immense amount of work and careful thinking over an extended period and, with its fluent style and logical organization, is a valuable contribution to the understanding of the economic significance of speculation.

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